### Mineralogical Society of the District of Columbia



## MINERAL MINUTES

The Mineral Minutes is the bulletin of The Mineralogical Society of the District of Columbia, Inc.

The purpose of this Society is to promote interest in mineralogy, geology, and related earth sciences and to encourage mineral collecting. An annual scholarship is awarded to a deserving student in the related field.

The Mineralogical Society of the District of Columbia is one of the founding Societies of the Eastern Federation of Mineralogical and Lapidary Societies.

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# Pegmatites: What they are and Where to find them? By Cathleen Brown, Museum Specialist Rocks and Ores Division February 6, 2013

I received my B. S. and the University of North Carolina at Charlotte in 1984. Subsequently, I completed work on my M. S. in Geology at the University of Maryland in 1996. While working on my Masters at the University of Maryland, I started working in the Smithsonian's Department of Mineralogy as a research assistant to Dr. Michael Wise. Dr. Wise was my advisor, tutor and mentor and I learned everything I know about pegmatites from him. Working with Mike allowed me to visit over 100 pegmatites! Pegmatites are my favorite rocks and I love to visit them and teach about them. Mike and I have run several PegCamps around the United States to teach students in geology about pegmatites.

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(Cathleen currently works for Leslie Hale, the Manager of the National Rock and Ore Collection in the Petrology Division of the Department of Mineral Sciences. She serves as a "rock librarian" sending subsamples of the collection to researchers around the world.)

February 2013

#### THE PREZ SAYS...

By Stephen Johnson



Hopefully everyone is faring well during this cold and flu season and I hope everyone can attend the next meeting on 6 February. I'll start out with some reminders. The first one is that on February 23, 2012, we have been invited to the annual pilgrimage to the mineralogical labs at James Madison University. Dr. Lance Kerns has been a great host in the past, so if you have any known unknowns and want to make them known knowns bring them with you. Also, bring a little spending money. Dr. Kerns usually has specimens extra to the department that he has out for sale/donation. Dr. Owens at W&M is looking at his schedule for March (towards the end of March) to propose some

times that work best for him to support our visit down there to see the Georgiadis Mineral Collection. More to follow on this one.

For those of you who were there for Dr. Mike Wise's presentation on Cathodoluminescence work on pegmatite minerals, I hope you enjoyed. I found it fascinating...but, then, I've always loved pegmatites and pegmatite minerals. Everyone has their favorites and that's mine.

At some point in the near future, Tom is going to loan me the complete set of club newsletters. I've agreed to scan them all and put them into Adobe Acrobat .pdf format. This may take a little time, but I believe it is worth the effort. I am very familiar with Adobe Acrobat and my intent is to scan the documents so that club members can actually use and copy the material if necessary (optical character recognition). This will also allow members to do key word searches to quickly find things of interest. Each year's set of bulletins will be scanned into one file and there will be an index built to quickly jump to each edition. The one thing that I'm currently not sure about ultimately is where to put this digital information once I'm done – so if anyone has suggestions on how to make it available online, please get with me. I'm open to any and all suggestions. Considering that there will be over 70 years' worth of information, I'm sure there will be some interesting reading once I get it done. On the digital side, I just noticed that our Facebook page comes up just below our website when I do a Google search...good sign. If you haven't taken a look yet, I recommend you do. Sheryl does a great job of posting pictures that she doesn't have space for in the newsletter.

There is one thing that I've been thinking about—and again I'll take any ideas or suggestions on this. Most of our members are also members of other local clubs. MSDC doesn't do much in the way of collecting trips, but I always see our members there when I go out. Seems to me there should be some way to more regularly collaborate and spread information about local collecting opportunities to interested members. Not sure where to go with this, but think some sort of process would enhance our knowledge of local collecting opportunities, increase our knowledge of local geology and finally increase our mineral collections (and I'm always for the last one!).

One final note—there has been some discussion about sharing contact information between club members. As the president, I don't even have a membership list yet. I know I personally don't have any issues with my information being distributed to club members. If you don't have any issues, please let Rick or Rebecca know. We want to ensure that we respect the wishes of anyone who has privacy concerns. They will probably discuss this at the February meeting.

True or False? All tanzanite gemstones originate from the area where they were initially discovered in Tanzania and Kenya.

True or False? Hematite is the primary ore of zinc.

True or False? Minerals found in some meteorites were formed in the outflows of red giant stars or around supernovas?

(Answers: see page 8)

## FIELD TRIP: James Madison University Mineralogy Laboratories and Museum

By Tom Tucker

February 23, 2013 9:00 AM

Dr. Lance Kearns has again invited MSDC, along with the MNCA Micromounters and the Northern Virginia Mineral Club to visit the mineralogy labs and the fabulous mineral museum at James Madison University, in



Harrisonburg, Virginia. We'll "pass the hat" so everyone will have an opportunity to make a small donation to the mineralogy department for the furtherance of their activities and acquisitions, and to pay for the hot co ffee and breakfast buns or donuts that

Lance will have awaiting our arrival.

The Museum alone is worthy of a trip to Harrisonburg, being the finest collection of minerals in the entire State. There are a dozen or so large wall cabinets filled with minerals from around the world, but with an obvious emphasis on Virginia specimens, like the turquois from Lynch Station, or apophyllite from Centreville or aragonite from Buchanan. After your visit, I'm sure you will have selected your own favorites. There is also a small room with a stunning fluorescent mineral display.

I've asked Lance to take a few moments in the morning to explain to our group the main attributes of each identification method—size of specimen required, destructive, non-destructive, information gained, etc. Lance will be available to identify those unknown specimens you have accumulated over the years. I'm sure he will demonstrate the use of the x-ray diffractometer for crystal structure determinations, and the Ramen spectrometer. The lab has enough stereo microscopes for all those interested to examine their specimens, or perhaps those that others have brought to share on a freebie" table. Bring anything you have to share.

There will be various mineral specimens in all size ranges from micro to cabinet size, and probably a few books, available for purchase at unusually reasonable prices or free will donations—acquired from various donations to the labs. Arrive early for the best selections. Please remember, these aren't free specimens, make your donations reasonable.

We will probably go out for pizza at lunch, and return in the afternoon to visit the "micro probe" and scanning electron microscope laboratory, on the other side of the campus. We might use it to determine the chemical make-up of our unknowns, or to photograph close-up the minute crystals at hand.

The mineralogy labs are in the Geology Department which is in Memorial Hall (the former Harrisonburg High School building), on South High Street. For a map of the campus go to the University website: www.jmu.edu, and at the upper right corner request "directions/map". On the index map, the Memorial Area is an inset at the upper right. Click the small map, and a detailed area map will appear.

Driving directions: It takes approximately two-and-a-quarter hours to reach JMU from the DC Beltway. From the Beltway, go west on I-66 approximately 65 miles to its intersection with I-81. Take the left fork, and go south on I-81 approximately 54 miles to Harrisonburg. Take Exit 245, Port Republic Road, and go right about a mile to High Street. Turn right, and proceed north about a half mile to a light at Cantrell Avenue. Memorial Hall will be to the left, with abundant parking. Being a weekend, parking passes will not be needed, but if you do have a problem, Lance can probably take care of it. Inside Memorial Hall, just follow the signs to the Geology Department. It's easy to get LOST!

If you plan to attend please let me know the number in your party, so that we can let Lance know how many to expect for coffee and buns.

If you would like to extend the weekend to include a field trip on Sunday to collect micro-minerals at various syenite localities about 15 miles south of Harrisonburg, or to Sugar Grove, West Virginia (about 40 miles) let me know, and we will do it. Email:

<u>threedogtom@earthlink.net</u>, or phone: 540-347-9098. See you there. Tom

#### **James Dwight Dana**

**Submitted by Erich Grundel** 

This month marks the bicentennial of the birth of America's most famous mineralogist: James Dwight Dana. He was born on February 12, 1813, in Utica, New York. From his parents, James Sr. and Harriet, he received a Calvinistic



philosophy of life that emphasized thrift, integrity and hard work. They also saw to it that the intellectual faculties of their children would be fully developed. To this end they received a remarkably fine education in what was still the American frontier in Central New York.

By the age of 10 he had already assembled a collection of rocks and minerals. In his teens he studied at the Utica High School, an exceptional school for its time. The school had university trained teachers, one of whom, Fay Edgerton, had a laboratory where he taught chemistry, botany and mineralogy. During the summer months he led students on excursions throughout the state to study geology and to collect rocks and minerals.

In 1830, he left Utica to attend Yale University. Except for a few years of participation in scientific expeditions, Yale would be his home for the rest of his life. At Yale he quickly attached himself to one of the great academic figures of the time: Benjamin Silliman, Sr. Silliman thought so highly of Dana that he put him in charge of the school's mineral collection. At the time Yale's mineral collection was probably the best in the country. Dana excelled at mineralogy and would be the field in which he first achieved lasting recognition.

After graduating from Yale he signed up as an instructor for students of the U.S. Naval Academy who were sailing to the Mediterranean as part of their training. On the cruise he was intensely studying mineralogy. He became interested in the new chemical nomenclature of the great Swedish chemist J.J. Berzelius. He eventually wrote to Berzelius and incorporated elements of the nomenclature in his next great project.

In August 1836, Dana returned to Utica for a brief time. During this time he wrote a 50 page manuscript on crystallography that was intended to be a reference for his own future use. At the same time he also commissioned the manufacture of a set of glass crystal models to he used to illustrate crystal forms. On returning to Yale he was encouraged, probably by the school librarian Edward Herrick, to expand the manuscript and connect it to a broader system of mineralogy.

In 1837, at the age of 24, Dana published his most enduring book: (Dana's) A System of Mineralogy. It is currently in its 8<sup>th</sup> edition. It is said to be the longest continually published American scientific book. It is also likely never to go beyond this point as digital resources render it more or less obsolete. Dana would update the book through the 5<sup>th</sup> edition. The 6<sup>th</sup> edition, which some say is the best, was put together by his son Edward, himself a distinguished mineralogist.

The System of Mineralogy served as bible for mineral collectors and as a scientific reference for professional until the late 20<sup>th</sup> century. Dana soon after the first edition was published began to expand the scope of his scientific interests. Eventually, the book became an obligation to him rather than a passion. The lasting influence of the book never waned until the digital age arrived. Today, early editions of the System of Mineralogy are coveted by collectors.

James Dwight Dana died on April 14, 1895. He is buried in New Haven's famous Grove Street cemetery along with many other famous Americans. (photo: http://en.wikipedia.org/wiki/James\_Dwight\_Dana)

### **Helenite: A Touch of Glass**

**Andy Thompson** 

Perhaps you saw the colorful full-page ads which appeared in the Sunday supplements both in local newspapers and throughout the country? The ring mounted green "gem" display beckoned readers to buy this newly discovered "rare mineral" variously named helenite, Mount Saint Helen's obsidian, tanzanite, silicon quartz or simply as substitutes for ruby, emerald or garnet. For little over a hundred dollars, you could own a rare piece of natural beauty.

So what exactly is helenite and how rare is

it? Simply put, helenite is glass and is as rare as window panes. Back in May of 1980 when Mount Saint Helens went volcanic, it spewed trillions of tons of ash on the Washington state country-side and buried all in its path. When foresters subsequently used blow torches to extricate their logging equipment, they noticed the heated ash turned into either green or red glass. It did not take long before locals were busy heating five gallon buckets of the ash and creating colorful glass

which was then cut into thousands of facetted pieces of glass, or, as they would say, rare gem stones.

As even novice mineral collectors would have suspected, falsehoods reigned supreme in the ads for helenite because it is neither a gemstone nor a mineral. Quartz mineral crystals are indeed an initial component of the ash and mud from which helenite is subsequently manufactured. But once melted into glass, the quartz loses its crystal structure and creates glass as the end product. That glass cools so quickly, no mineral crystals form.

Nor was any helenite ever created by the natural volcanic activity. The Mount Saint Helens volcano certainly created the ash. But it was the human

manufacturers who then took the ash and mud into a sterile setting and efficiently burned off larger carbon inclusions to produce green or red glass free of gross impurities. So the claim that helenite is somehow mystically created by natural volcanic activity is another of the ads' falsehoods.

The effort to market helenite as an authentic mineral began shortly after the 1980 eruption. A Portland Oregon firm, Robert C. Beardemphi, located just 50 miles from Mt. Saint Helens in Washington State, quickly applied in early 1981 for

> ownership of a trademark for the name "helenite". But that initial application is currently identified by the U.S. Patent and Trademark Office (USPTO) as "cancelled." So, by that Office denying anyone an official U.S. government trademark, the public seemed to have gained a partial and temporary victory related to consumer protection.

Will such deceptive advertising continue? After all, it has been more than three

decades since this scam was first foisted on the public and the fact that they continue to advertise the glass suggests they must be somewhat successful. Another sign that it will continue is that in July of 2012, the New York firm of Weinman Brothers Inc. applied for ownership of a trademark for the name helenite, just in time for holiday advertising. But in October, the examining attorney for the USPTO responded and did not grant the trademark. The USPTO either outright refused the application or asked for additional information. In either case, the continued national holiday advertising and the New York firm's application for a trademark make it clear that caveat emptor, buyer beware, continues to be worthy advice against the allure of 'prettyite.'



Photo: http://en.wikipedia.org/wiki/Helenite

Linked-In: (courtesy of The Stamford Mineralogical Society Newsletter - Jan. 2013 Vug Examiner)

www.mineralcalendar.com

info@brucemuseum.org, www.brucemuseum.org, peabody.yale.edu, www.ericsloane.com/museum.htm,

http://www.amnh.org, sterlinghillminingmuseum.org, www.franklinmineralmuseum.com,

www.wesleyan.edu/ees/museum/mineral.html, www.fas.harvard.edu/~geomus/minerals.htm,

http://www.ctamachinery.com/MiningMuseumPage.html,

http://www.lizzadromuseum.org,http://http://earthscienceandgeography, vassar.edu/facilities/museum/

http://www.handbookofmineralogy.com, http://webmineral.com, http://www.mindat.org,

http://www.mii.org,http://www.mnh.si.edu, http://www.lapidaryschool.org,

http://www.geology.neab.net,http://www.the-vug.com/vug/vugfakes.htm

The Sterling Hill Mining Museum in Ogdensburg, NJ (sterlinghillminingmuseum.org/visitor/schedule.php) is open to collecting daily on the Mine Run dump, 10 AM. – 3 PM, and on the last Sunday of each month in the Fill quarry and Passaic pit areas 9 AM-3 PM. Collecting fees: \$5 admission plus \$1.50/lb for all material taken. Also the Franklin Mineral Museum (\$7 admission, <a href="www.franklinmineralmuseum.com">www.franklinmineralmuseum.com</a>) is open daily April through November, Monday through Friday 10 AM – 4 PM. Saturdays 10 AM – 5 PM and Sundays 11 AM -5 PM. Collecting available daily for another \$7 (combined with admission \$12), plus \$1.50 per pound.

Also, visit the Science Museum at 2500 West Broad Street, Richmond, VA 804.864.1400.

#### **Upcoming Events**

Feb. 16: 23<sup>rd</sup> Annual Mineral, Jewelry & Fossil Show sponsored by the Southern Maryland Rock & Mineral Club. The Show Place, Marlboro, MD

May 31 - Jun. 1-2: (EFMLS Mtg. May 31.) EFMLS Convention & Show. Hosts: The Island Rockhounds & Suffolk Gem & Mineral Club, Plainview, NY.





- 1. Pegmatite containing lepidolite, tourmaline, and quartz from the White Elephant Mine in the Black Hills, South Dakota
- 2. Pegmatite with blue corundum crystals

(Photo Credits: http://en.wikipedia.org/wiki/Pegmatite)

6



Secretary's Report
By Patricia Flavin

Meeting Date: January 2, 2013

Meeting Place: Cathy Kerby Rm. CE 340, The Smithsonian National Museum of Natural History

Attendees: 23

Agenda: Club President Steve Johnson recognized past presidents, Cynthia Payne, Ed Fisher, Andy

Thompson, Tom Tucker, Immediate Past President.

Minutes Approved: December 2012

**Visitors:** Shelly Jaye, Professor, Northern Virginia Community College ("NVCC"), Geology Dept. and Bob Jaye, Shelley's husband. Professor Jaye has invited the club to view "thin sections" of microscopic minerals at the NVCC-Annandale Campus, at a future date TBD. Shelly also volunteered to discuss information concerning the Chesapeake Bay meteor impact crater at a later date.

Treasurer's report: Rebecca Siegal accounted for the club funds. Please pay your annual dues.

Old Business: None.

**New Business:** Club trip to James Madison University, Harrisonburg, Va. February 23, 2013. Dr. Lance Kerns-Professor, Mineral Museum Curator, and SEM Regional Facility Director, Geology Dept. JMU, will provide our annual tour of the JMU Geology Museum, as well as view & discuss minerals. Bring money for purchasing minerals, donate pieces from your own abundant collection, bring minerals that need identification.

Our club President, Steve Johnson, Alumni, William and Mary College, Williamsburg, Va., announced a future spring field trip to their Mineral Museum & Geology Dept.

**Announcements**: Please check out the MSDC Facebook page. **Tom** Tucker still has "way to cool" Quarry Safety Signs for sale for \$20.

Motion to Adjourn to the Program.

**Program: Speaker, Professor Michael A. Wise,** Geologist, Division of Mineralogy, Smithsonian. Subject: Pegmatites & Cathodoluminescence. This study and process is performed using a microscope (that is attached to a monitor and other devices to view a mineral), that has an external electron beam focused on the mineral specimen. The emission of photons from the beam allows the viewer to see trace elements contained within the mineral. Professor Wise discussed the geologic applications for this process.

The business meeting concluded at 9:45 pm. Refreshments were served

#### 2013 Officers and Board Members



(left to right: Steve Johnson, Rick Reiber, Patricia Flavin, Rebecca Siegal, Dave Hennessey, Dave Nanney, Andy Thompson, & Sheryl Sims)

(photos provided by B. Thompson, A. Cameron Siegal, & S. Sims)

#### **OFFICERS & BOARD MEMBERS CONTACT INFORMATION**

President: Steve Johnson - StevikJ@gmail.com; Vice President: Rick Reiber - Mathfun34@yahoo.com
Secretary: Patricia Flavin - patriciarehill@gmail.com; Treasurer: Rebecca Siegal – dcmineralclub@gmail.com
Directors: Dave Hennessey - dhennessey@spa.com; Dave Nanney - DNanney@cox.net;
Andy Thompson - thompson01@starpower.net; Editor: Sheryl Sims - sesims4@cox.net

#### Thin Section Field Trip In The Works

By John Weidner

Northern Virginia Community College is happy to open up its geology lab on a Saturday afternoon, set up our polarizing microscopes, and show-off what we have in terms of thin sections. We will provide an introduction to using polarizing microscopes, assuming nothing—then bring out our thin section collection and show it off.



(photo: Microsoft Clip Art)

The Annandale Campus of Northern Virginia Community College is located just outside the Beltway on Little River Turnpike. [8333 Little River Turnpike, Annandale, VA 22003-3796.] For more information, contact John Weidner at: jfweidner42@gmail.com or come to our next mineral club meeting.



**Thank You** to all who donated door prizes last year, provided refreshments, took photos, brought guests, shared mineral news, and made our club a great one by attending our meetings!

Thank You to Andy and Betty Thompson for graciously helping me proofread the Mineral Minutes!

Please continue to support our club bulletin by sending me your mineral-related news, articles, photos and/or links. The *Mineral Minutes* newsletter deadline is the 15th of each month. You may email your submissions to me at <sesims4 at cox.net>. Thank you! (Note: The Editor reserves the right to edit all submissions as necessary.)

#### Answers to True or False questions on page 2: True. False. True.

(What Do You Know About Rocks, Minerals And Gems? Knowledge Cards Quiz Deck. Smithsonian Institution. Published by Pomegranate Communications, Inc.)

#### Treasurer's Note: Treasurer, Rebecca Siegal



**2013 Dues!** \$20 for single memberships. \$25 for family memberships. Why not invite your friends and family to join MSDC?

Please send all treasurer-related emails to: dcmineralclub@gmail.com

**MORE REFRESHMENTS, PLEASE!** Please contact Susan and Ed Fisher, or Betty Thompson, if you are able to bring refreshments to our monthly meetings. Susan, Ed, and Betty, along with a few other committed members, are

the sources of the tasty treats that we enjoy at each of our meetings. If you are able to help, please seek out the friendly faces below and coordinate with them. Your contribution will be greatly appreciated!



(photos provided by B. Thompson)

**WELCOME! WELCOME!** Guests are always welcome to attend MSDC meetings. Please continue to invite your friends!

#### 2013 Speaker Flash Back:



(Microsoft Clipart)

January 2013:

Michael A. Wise, Ph. D, geologist in the Division of Mineralogy, for The Smithsonian National Museum of Natural History gave a very interesting presentation on cathodoluminescence.

#### Minerals in the News:

Researchers have found rare-earth elements in island's bauxite residue. They are key ingredients for smartphones, computers and numerous other high-tech goods. See: http://www.washingtonpost.com/business/jamaica-official-says-researchers-have-found-rare-earth-elements-in-islands-bauxite-residue/2013/01/15/a843a0dc-5f71-11e2-9dc9-bca76dd777b8\_story.html (The Washington Post, Jan. 15, 2013).

**NASA's Curiosity rover to begin drilling into a Martian rock.** "Curiosity is on a quest to determine whether environmental conditions could have been favorable for microbes. By boring into a rock and transferring the powder to the rover's onboard chemistry lab and other instruments, scientists should get a better handle on the region's mineral and chemical makeup." See: <a href="http://www.washingtonpost.com/business/ready-set-drill-nasas-curiosity-rover-being-readied-to-begin-drilling-into-a-martian-rock/2013/01/15/2cad0654-5f42-11e2-9dc9-bca76dd777b8 story.html">http://www.washingtonpost.com/business/ready-set-drill-nasas-curiosity-rover-being-readied-to-begin-drilling-into-a-martian-rock/2013/01/15/2cad0654-5f42-11e2-9dc9-bca76dd777b8 story.html</a> (The Washington Post, Jan. 15, 2013).

<u>Pre-Meeting Dinner</u>: Join us for dinner at the Pier 7 Restaurant at 6:00 PM for dinner before the club meeting. 650 Water St SW, (at S L St), Washington, DC 20024, (202) 554-2500, www.pier7restaurant.com/Menu.

Please call Susan Fisher at 703-830-9733 to make a reservation if you wish to attend.

# Visitors are always welcome at our monthly meetings and dinners! MEMBERSHIP APPLICATION OR RENEWAL THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA (MSDC)

() Family ~ \$25.00 per year. One address.			
() Individual ~ \$20.00 per year.			
() New * () Renewal Dues are for Year*  For new members who join in the last months of the year, membership will extend through the following year with no additional dues.			
			additional dues.
ANNUAL DUES – PLEASE PAY YOUR DUES PROMP	TLY.		
Pay at December or January meeting or mail to:			
Mineralogical Society of DC			
P.O. Box 9957			
Alexandria, VA 22304			
Name(s) (First and Last)			
Address			
City	State	Zip	
Phone(s): Home/Work/Mobile			
Email(s)			
OK TO INCLUDE YOU ON CLUB MEMBERSHIP LIST	? Distributed to Club me	mbers only.	
() Yes – Include name, address, phone, email.			
If you want any information omitted from the mer Omit my: () Email, () Home phone, ()Work p			
() Address, () Name	priorie, () Mobile priori	e,	
SPECIAL CLUB-RELATED INTERESTS?			
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MINERALOGICAL	SOCIETY OF THE DIS	TRICT OF COLUMBIA	
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President: Steve Johnson, stevikj@gmail.com			
Vice President & Program Chair: Rick Reiber,	· - •	om	
Secretary: Patricia Flavin, patriciarehill@gma			
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Director: Dave Nanney			
Director: Dave Hennessey			
Director: Andy Thompson, thompson01@sta	rpower.net		
Editor: Sheryl Sims, sesims4@cox.net			
Co-Web Master: Betty Thompson & Casper	Voogt, www.mineralso	ocietyofDC.org	
, , ,	<i>3                                    </i>	,	
Meeting Dates, Time, and Location: The first	t Wednesday of each m	nonth. (No meeting in July and August.) The	
		Street and Constitution Ave, Washington D.C.	
We will gather at the Constitution Avenue er	•	,	
Cathy Kirby Room. Street parking: <b>THERE AI</b>		•	

**ENFORCEMENT UNTIL 10 PM.** 

## MINERAL MINUTES



Newsletter of the Mineralogical Society of the District of Columbia



Mineralogical Society of DC P.O. Box 9957 Alexandria, VA 22304 U.S.A.

Time Sensitive Dated Material First-Class Mail

February 2013