



FRIENDS OF MINERALOGY

Pennsylvania Chapter

NEWSLETTER

VOL. 36 NO. ~~1~~ 2

SUMMER Spring 2008

NEW updated Pennsylvania Mineral Species List

Martin Anne' has a NEW updated list of PA minerals available online at our FM webpage:
<http://www.geocities.com/sajas.geo/FM/index.htm> as a pdf (Portable Document file) for anyone and everyone to download and print.

Focus on Micromounting

A Micromineral Symposium at the Cleveland Museum of Natural History on Friday, Saturday and Sunday November 7th, 8th, & 9th, 2008. The keynote speaker will be Ronnie Van Dommelen giving two presentations on minerals of Eastern Canada. For more information go to
<http://www.cmnh.org/site/ResearchandCollections/Mineralogy/MicromineralSymposium.aspx>

Subject: **Kentucky Mineral Symposium Nov. 1 & 2**

FROM: "Rockhounds List" <lists.drizzle.com>

<http://www.eclecticlapidary.com/Rockhounds/index.html>

I am working with several others in conjunction with the Midwest Chapter of the Friends of Mineralogy to organize a two day symposium focusing on the history, geology and mineralogy of the Central Kentucky Mineral District on Nov. 1 & 2. While not as famous as the IL-KY district, this part of central Kentucky has been a mineral producer since the War of 1812. Several hundred mines have produced varying amounts of barite, calcite, fluorite, galena and sphalerite as well as less common secondary minerals in the past 196 years.

The symposium will be based at Historic Shaker Village near Harrodsburg, Kentucky (which has a large calcite mine on its property). It will include two days of field excursions and an evening banquet with more than a half-dozen speakers. The registration fee is \$50 which includes a color symposium guidebook (with contributions by the speakers), transportation to the sites, and lunches on both days. This generous package is sponsored by WMB Engineering, the Kentucky Geological Survey and the Kentucky Crushed Stone Association, respectively.

This is also the first symposium for this mineral district that has ever been held that is geared for the non-professional geologist / rock hound. I believe the program will be of the highest caliber! It is certainly the greatest bargain you'll ever find.

Registration is limited to only 50 people. If you are interested in additional information and the registration application, please reply to me (deepskyspy@insightbb.com) and not the list.

Regards, Alan Goldstein

President's Message

Summer 2008



The past few months have been a whirlwind of activity. When I haven't been taking care of my wife and newborn daughter, or working on the house, I have been tearing through old literature looking for information on the minerals of Delaware. (Yes, there are a few- they're just not very accessible.) I have also been trying to help Dr. Lance Kearns at James Madison University by tearing through old abstracts and magazine articles looking for a write-up on a secondary phosphate mineral that is associated with pyromorphite. Hopefully your spring and summer found you busy hitting some quarries, outcrops, and shows as well.

As many of you know, the PA Chapter Board of Directors has decided to try a new format for the 2008 fall symposium. This year's event is going to be an all field-trip format with the organization getting into 1-2 quarries on Saturday and probably one quarry on Sunday. Arnold Mogel and Pen Ambler are beating down doors trying to find us a few places within close proximity to each other in an effort to keep expenses to a minimum for the attendees. We don't anticipate any admission fee being charged for this event, but the FM Membership rule for field trips will still apply due to our insurance requirements. More details on this will follow in a mailing in the next month or so.

At the last Board meeting we also discussed how to make better use of the Grant Fund because applications are not coming in. One idea that was floated around for discussion was to make the fund available to mineral museums for the purpose of setting up a case or acquiring a specimen or specimens for the betterment of the collection. The Board needs to review the criteria for the grant fund and revise the rules before this would go into effect.

I want to take some time to thank a couple of individuals for their service to the organization. Just recently, both Heyward Wharton and Neil Wintringham announced that they would like to step down from their Director positions on the Chapter's Board. Both Heyward and Neil have been active with the PA Chapter for years and we owe them a great deal of thanks for the work that they have done during their service.

That being said, there are now a few vacancies to fill on the Board of Directors. If you would like to be more active with the organization and have ideas on how you would like to see the organization move, please feel free to contact me or Arnold Mogel. Our contact information can be found elsewhere in the newsletter.

Please feel free to contact any member of the Board with topics/issues that you feel are important. We will do our best to address your concerns.

Regards,
Doug Rambo
President,
F.M. PA Chapter, Inc.

From: Rakovan, John Dr.

To: MSA List

Sent: Friday, July 11, 2008

Subject: Adding mineral names to your word processor for spell checking

Dear All,

Below are instructions on how to add the list of IMA approved mineral names to your word processor for spell checking. I hope that this is helpful.

Sincerely,
John Rakovan
Department of Geology
Miami University
Oxford, OH 45056

Download Custom Dictionary File

- 1) Go to the IMA Minerals Webpage: <http://rruff.info/ima/> using your internet browser.
- 2) Check the box **IMA Approved Minerals Only** if you only want these. Uncheck it if you want all mineral names included in the database.
- 3) Click the **Export Data** button
A popup window will appear (your browser must be set to allow popups).
- 4) Click the **Download Microsoft Word Dictionary button** in the popup window.
MS Wordpad should open with a list of the mineral names present.
- 5) Save the file to your desktop (or other folder) and name it minerals.dic

NOTE: If you are going to install the dictionary into Word 2007 you must save the file in Unicode encoding. To do this, open the file in MS Wordpad, choose save as and change the encoding type.

Add Custom Dictionary to Word

For Word 98/2000/2003:

- 1) Open Word
- 2) On the **Tools** menu, click **Options**, and then click the **Spelling & Grammar** tab.
- 3) Click **Custom Dictionaries**.
- 4) If the custom dictionary you want isn't in the **Custom Dictionaries** box, click **Add**.
- 5) Locate the folder containing the custom dictionary you want, and double-click the dictionary file.
- 6) If you want to make this dictionary the default dictionary, click the dictionary name, and then click **Change Default**.
- 7) Activate the custom dictionary.

For Word 2007

- 1) Open Word
- 2) Click the **Office** button and select **Word Options**
- 3) Select the **Proofing options**
- 4) Click **Custom Dictionaries**
- 5) Click **add**
- 6) Locate the folder containing the custom dictionary you want, and double-click the dictionary file.
- 7) Activate the custom dictionary.

For other word processing programs

- 1) Go to the help menu and lookup instructions for adding a custom dictionary

HELP WANTED!**Dr. Hofmeister is looking for a few good specimens.**

"I am (always!) looking for samples. Below is a list of the projects going on and what would help. I cut my samples into oriented slabs of 5-6 mm across and about 1 mm thick. Synthetic or natural is fine. I get better data with better quality crystals."

Dr. Hofmeister conducts research that probes the origins of our planet and the universe by understanding the thermal conductivity of minerals. In brief here are the two main topic of her research.

**Research Topic 1: The Thermal State of the Earth**

Dr. Hofmeister is at Washington University where the first successful model for temperature, pressure, and compositional dependence of thermal conductivity was recently developed. This new model predicted that the thermal conductivity "k" for olivine would double upon its high-pressure transformation to the spinel structure within the earth's interior. This was subsequently confirmed by experimental work of Xu et al. (Pepi 2005). Modeling the earth with this information yielded higher internal temperatures than previously thought, reducing the probability of metastable olivine or of kinetics being important for deep earthquakes (Hauck et al. GRL 1999).

Deriving k from changing pressures can be predicted, but the values for changing temperatures (actually thermal diffusivity at T) need to be experimentally measured using a laser flash apparatus. Orthopyroxenes, amphiboles, and feldspars are currently being examined.

This information has been applied to revising the global heat flux: Hofmeister, A.M. and Criss, R.E., 2005. Mantle convection and heat flow in the triaxial Earth. In: Melting anomalies: Their Nature and Origin, edited by G.R. Foulger, J.H. Natland, D.C. Presnall, and D.L. Anderson (Geological Society of America) pp. 289–302. This paper led to the realization that layered convection can be inferred from the pattern of trenches and ridges which result from coupling of the rotational and gravitational distortions of the Earth with locations of hot upwellings from the lower mantle convection cells.

Research Topic 2: Dust in Space

Astronomical measurements of infrared spectra show signatures of dust superimposed upon stellar emissions. A first step in understanding the development of protoplanetary nebula is simply identification of the dust that exists in space. To achieve this end, her research group is collecting IR reflectivity spectra and thin film data of about 100 minerals thought to be part of the nebula condensation sequence, or identified in meteorites, and various simple chemical compounds. Quantitative analyses of these data provide optical functions and emission spectra, which can be used to infer grain sizes, in addition to chemistry and structure. Application to the stars is made through collaborations with Angela Speck (University of Missouri) and Janet Bowey (University College London). Much of the laboratory data collected so far were gathered by Erin Keppel, a middle-school teacher in St. Louis, during her summer break. Future plans include low temperature emissions and reflection spectra, and study of organic compounds.

To learn more about Dr. Hofmeister's fascinating research centering on the thermal conductivity of minerals as it relates to origins of the universe go to her web page at <http://epsc.wustl.edu/admin/people/hofmeister.html> where the above information was extracted and you can read more.

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To conduct her research Dr. Hofmeister is always in need of single crystals to analyze. The sample need not have any location (or provenance) data. What is important is getting a flat slice the size of a dime of a good quality crystal. It does not need to be "Gem Quality", but an unweathered and unincluded single crystal. It does not even need to be a whole crystal, but a chip big enough to get an oriented slice equal to a dime (6 mm by 6 mm by 1 mm) from it. Some of the things she is looking for are:

Cristobalite or Tridymite—*My student Will Romain has looked at rhyolites with crystals of high Temperature SiO₂.*

Enstatites—*I have Norton County, which is kind of grungy, and one gemstone. Both are close to end member. Something with 20 to 40 % Fe would be great. I recently purchased one single-crystal from Tanzania and another probably from Burma, which likely have 10% Fe, based on the literature. I have gotten material from dealers as "bronze enstatite " that was actually a hornblende (pargasite). I have enstatite rich rocks from Quebec and Webster N.C., but not good crystals. Higher iron is fine as well. - My hope is to constrain temperatures in the lithosphere. I've published data on olivines, garnets, spinels and clinopyroxenes.*

Perovskite or Perovskite structure minerals—*I have SrTiO₃ (strontium titanate), KNbO₃ (potassium niobate), and a piece of CaTiO₃ (calcium titanate) that is usable but not great. Anything would help here. - This is also my study, trying to constrain the deep earth temperatures and transport.*

Amphiboles—*We have tremolite and pargasite (mentioned above). I ran the pargasite and the thermal diffusivity is huge! Any single crystal in this mineral family would help. - This project is to constrain heat in the continental crust and is being worked on by my former PhD student.*

Andesine, Plagioclase, or Anorthite (plagioclase of any type)—*this is also for the continental crust project. We have albite, laboradorite and bytownite, and am trying to get material without the exsolution lamella. I have something labeled as orthoclase, but what I chipped off for microprobe analysis turned out to be quartz.*

Yttrium-Iron Garnet—*I had a sample but it oxidized. I use this for a temperature standard.*

Andalusite-Silimanite—*I have a piece of kyanite.*

Iron Sulfides and any Fe-rich rock-forming minerals—*For example, the clinopyroxene (cpx) study did not include hedenbergite.*

Please send your donated samples to me at the address below or write to me for further information.

Thanks,

Prof. Anne M. Hofmeister
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From: Ask-A-Mineralogist message board

My name is Nadav Levin, and I'm the Head of the Toolmarks and Materials Lab of the Div. of Identification and forensic Science (DIFS) of the Israeli Police. My Lab is dealing, among many other topics, with chemical methods for the enhancement of shoeprints. We developed, for instance a method for enhancing dust shoeprints using the calcium carbonate content of the dust by applying a solution of Bromophenol Blue (BPB) indicator to the print. Using this method, the dust print will turn purple, while the background will remain yellowish. We are also faced with the need for enhancing silicate dust prints, that do not react with the BPB reagent. May we ask for your assistance in this matter? We are looking for a chemical color (spot test) method that will react with common silicate minerals found in environmental dust. The proposed method should not, preferably, interfere with the BPB one, in order that these 2 methods may be applied one after the other. Your assistance will be highly appreciated.

Thanks, and best regards, Nadav

Levin DIFS Israel

simanim@police.gov.il

FROM THE EDITOR: If you have an article that you would like to be printed in this newsletter, or an idea for an article or information to be included, please send it either via e-mail or post to Dr. David Saja at dsaja@cmnh.org, or 1 Wade Oval Drive, Cleveland, Ohio 44106.

Submission deadlines are:

Spring Issue—March 15th

Summer Issue—June 15th

Fall Issue—September 15th

Winter Issue—December 15th

Please send text files as either "rtf" (rich text format) or "txt" plain text. Pictures should be either "png" (portable network graphics) or "jpeg" or "jpg" (joint photographic experts group).

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