Nittany Mineralogical Society Bulletin

Nittany Mineralogical Society, Inc.
P.O. Box 10664
State College PA 16805

November, 2007 **www.ems.psu.edu/nms/** *Editor: David C. Glick (see p. 8)*

NOTE THE EARLY MEETING DATE!

November 14th meeting:

Diamonds in the Northeastern U.S.: Are there more to be discovered?

by Arnold G. Doden

*Our November meeting will be held **one week earlier in the month than usual**, Wednesday the 14th at 7:30 p.m., in the room 116 auditorium of Earth & Engineering Sciences Building on the west side of the Penn State campus in State College, PA.*

6:30 to 7:30 p.m.: Social hour with refreshments in the lobby
7:30 to 8:00 p.m.: announcements; door prize drawings
about 8:00 p.m.: featured program

The event has free admission, free parking, free door prize drawings and free refreshments, and is open to all – please come and share an enjoyable evening! - - Editor

Diamonds have been known in the northeastern United States since at least the 19th century. A few of these have been large gem-quality stones of great value but, as is the case for many diamonds in North America, their point of origin is unknown. Nevertheless, several states in this region have kimberlites, a rare type of igneous rock that is one of the few primary sources of diamonds. This fact offers encouragement for both prospectors and scientists who hope to someday find more of them, perhaps another Punch Jones (34 carats), or even a few "micros" that have no retail value but would still be of great academic interest.

The search for diamonds is complicated by many things, including the scarcity of kimberlites, the difficulty in recognizing these unusual rocks, their susceptibility to weathering, the actions of glaciers, and other geological phenomena. We will review the known occurrences of kimberlites in this region as well as the mineralogical and geological information used by the exploration industry to evaluate the potential for diamonds in other parts of the world. We will also examine data from the Tanoma kimberlite in Pennsylvania and consider our chances of finding more diamonds in the northeastern U.S. ***Continued on page 2***

And for more on diamonds, see page 3

JUNIOR ROCKHOUNDS

NOVEMBER & DECEMBER PROGRAMS

Rocks, Minerals and Fire:

Since Early Man discovered he could make fire by striking rocks together, fire has fascinated us.

How do you use a rock to start a fire? And what happens when you "cook" a mineral?

Junior Rockhounds will learn about rocks and minerals, flames and fires on Tuesday, November 13.

- Dr. Andrew Sicree

Junior Rockhounds will meet at 7:00 p.m. on Tuesday, Nov. 13, and Tuesday, Dec. 11, in Room 117, Earth and Engineering Sciences Building (EESB), on White Course Drive off North Atherton Street, on the west side of the Penn State campus in State College, PA.

Your Editor apologizes for the lack of publicity for the October meeting; that program will be presented again at the November 13 meeting, so don't miss it this time!

The December 11th meeting for Juniors will be:

Radioactivity in minerals and everyday life:

See some radioactive minerals, learn to use a Geiger counter, and learn about radioactivity and how it occurs in everyday life.

Juniors and their families and guests are invited to attend the Holiday Social and Sale - see below. *- Editor*

Holiday Social and Sale

The December 19th meeting is being planned as our annual Holiday Social and Sale. Watch for details.

ATTENDING THE NOVEMBER MEETING?

This event is free and open to all - bring a friend!

Donations of door prize specimens are invited.

Your additional snacks will be welcomed.

Please Pay Dues Now

We are in a new membership year; if you haven't paid dues yet, they are overdue, so please bring your payment and form to the November meeting or send them to the P.O. Box as listed on the form. Your dues are used for Bulletins and mailing expenses, insurance, Federation dues, programs, educational activities, refreshments, and operating costs. If a form is enclosed with this Bulletin, it means we have not received your payment as of the end of October. If you have paid in the last 10 days, please ignore the enclosed form. Thank you! *- Editor*

Diamonds *continued from page 1*

Arnold Doden became interested in studying kimberlites and other rare igneous rocks while working on his Ph.D. dissertation at Penn State University. The subject of that research was unusual intrusions and diatremes (small volcanic pipes) in central Montana. The field relationships, mineralogy, and chemistry of these altered rocks were examined to classify the rock types and to better understand the genesis of their magmas. The study also evaluated the potential of these intrusions to host diamonds. Further work included studies of diatremes and entrained nodules in the Black Hills area of South Dakota and Wyoming.

Doden later continued his research interests with studies of kimberlites in Pennsylvania and nearby states. These projects involved collaborations on the Tanoma kimberlite and the recently discovered Sandy Ridge rocks. He has also conducted research on the Clear Spring igneous body in Maryland, previously believed to be a kimberlite but now recognized as a different type of ultramafic rock (olivine mellilitite). Doden is presently a consulting geologist and a co-owner of Geologic Mapping and Resource Evaluation, Inc. in State College.

Annual Meeting Report

by David Glick, past NMS Secretary

At the Annual Meeting on October 17, the following officers were elected:
President: David Glick; Vice-President: Robert Altamura; Treasurer: John Passaneau; Secretary: Frank Kowalczyk.
Please see page 8 for contact information.

The new Bylaws were approved by vote of the members present. They can be found on our web site, and the Board plans to distribute printed copies with a future Bulletin. T

Let's Get Gemstones on U.S. Stamps

Wendell C. Mohr, Chairman,
AFMS Commemorative Stamp Committee

Many thanks to President Shirley Leeson for her fervent support of the Commemorative Stamp Committee's Project. We have decided that the USPS would probably be more receptive to BIRTHSTONES on stamps because of their universal appeal. Nearly everyone knows their birthstone!

Persistence pays, and in the competitive atmosphere of getting stamps into print, we believe that it is very important to continue to endorse our request for birthstones on stamps. It is a first class idea, really an extension of the "Our Mineral Heritage" theme of the two prior mineral stamp sets issued in 1974 and 1992. We think that the stamps would be beautiful and welcomed by not only gem and mineral collectors and admirers but also postal customers in general. Did you send a previous request to the CSAC? Help by sending another. Persistence pays.

A new tack, perhaps more persuasive, would be to ask for personalized letters to be sent, as opposed to forms, which might get lower priority consideration, or even be disregarded. Let's give it a try. It will require a little bit more effort and a first class stamp. Hopefully we can stick 'em (formerly lick 'em) on envelopes in the near future. It's a gem of an idea!

Send to this address:

The Citizens' Stamp Advisory Committee
Stamp Development
US Postal Service
1735 North Lynn St Room 5013
Arlington VA 22209-6432 T

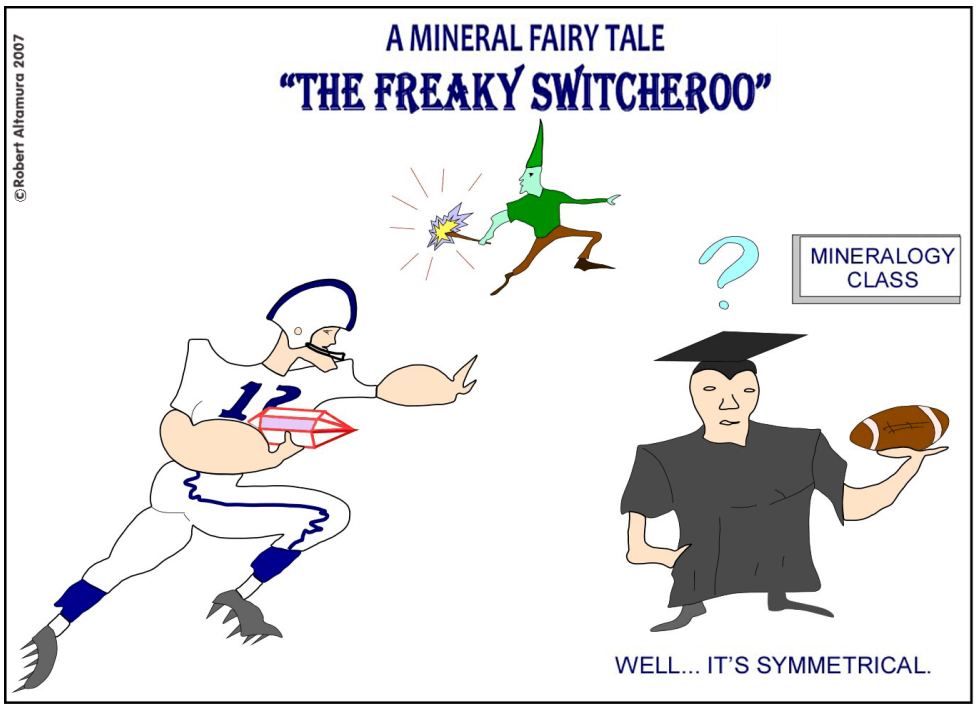
Minerals on Display at Penn State's HUB

As noted last month, Penn State's Earth & Mineral Sciences Museum has a new ***Color of Minerals*** exhibit in the Hetzel Union Building on Penn State's University Park campus until December 9.

NEWS FROM THE FEDERATIONS

Nittany Mineralogical Society is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies.

Continued on page 6



Popular Mineralogy

Diamonds, coal, and carbon:

With all the coalfields in North America, why aren't more diamonds found here?

by Andrew A. Sicree

Both diamonds and coal are carbon, right?

Diamonds are pure carbon. *Coal*, however, is a complex mixture of large organic molecules consisting mainly of carbon, hydrogen, and oxygen with some nitrogen, sulfur and other elements. Coal beds formed from thick layers of plant matter that were buried, compacted, and lithified (turned to rock). Diamonds and coal are quite different.

Can we find diamonds in coal mines?

In nature, diamonds form in the Earth's mantle under very high pressures (54,000 times atmospheric pressure). In order to be turned into diamond, coal would have to be pushed down to depths of at least 100 miles. None of our coals were ever buried anywhere that deep! Even the *anthracite*, or hard coal, from eastern Pennsylvania was never buried any deeper than about three to six miles. So don't go looking in the coalfields for diamonds.

You may hear the term “black diamond” used for shiny black anthracite coal; this is a miner’s nickname for coal, not a geological term. Dark or black diamonds are called *bort* or *carbonado*, but they have no relationship to coal. Most bort is from the Congo, and most carbonados are from Brazil or the Central African Republic.

Formation of diamonds

Diamonds are as interesting to the mineralogist as they are to the jeweler. They are important to earth scientists because they carry information about the nature of the Earth's mantle where they formed. [The mantle is that layer of the Earth's structure which lies between the Earth's crust and its core: under most continents it lies about 20 miles down and continues to 1800 miles in depth.] The most common way diamonds can be carried out of the mantle is during a volcanic eruption of a very unusual igneous rock called *kimberlite.*

Diamond host-rocks

Kimberlite is typically a gray or bluish rock with large crystals of a dark brown mica, the mineral *phlogopite*, visible in it. The fine-grained matrix is mostly *peridotite*, a blue- or green-gray rock made up mostly of the minerals *olivine* and *pyroxene.* Kimberlites may also contain small crystals of bright green *diopside*, blood-red *pyrope garnets*, and glossy black *ilmenite*, as well as other minerals. Fragments of other rocks from the Earth's mantle and crust in the form of *xenoliths* (i.e., "strange rocks") may also be trapped in the kimberlite matrix.

Of course, the included mineral that really interests everyone is *diamond*. Sometimes, diamonds occur as crystals with octahedral shapes, reflecting their underlying cubic crystal structure. More often, diamonds are odd-shaped because they were fragmented or redissolved before the kimberlite host-rock formed.

Diamonds are also found in another unusual mantle-derived igneous rock called *lamproite*. They also occur in meteorites and in rocks that have been shocked by the impact of large meteorites. Meteoritic diamonds are quite small and often imperfect, rather than large gem-grade, specimens. Carbonado diamonds are thought to have been formed in inter-stellar space and have been carried to Earth in meteorites.

Stability of diamond and graphite

Diamonds, with a cubic crystal structure, are crystals of pure carbon formed under high pressure. Temperature is also important: typically, diamonds form only in those parts of the mantle where the pressures are greater than about 54,000 atmospheres and the temperatures are less than 1300/C (2370/F).

The only truly stable form of pure carbon at the *surface* of the Earth is the mineral *graphite*. Like diamond, graphite is pure carbon, but graphite has a planar hexagonal crystal structure. Between the hexagonal layers of carbon weak bonds make graphite soft and slippery-feeling. Writing pencil “lead” is really graphite – used because it is so soft that it rubs off on paper and makes a black mark. Thus, the hardest mineral and one of the softest of minerals share the same chemical composition: crystal structure is what matters!

Because diamonds form in the mantle, the fact that we find them on the surface implies that rocks can escape from the Earth's mantle to its surface. The magma that solidifies to form kimberlite must move rapidly from the Earth's mantle to the surface, and cool quickly, if diamonds are to avoid conversion into graphite. It has been calculated that a kimberlite eruption may occur at twice the speed of sound! You wouldn't want to be nearby when one blew, but there have been no kimberlite eruptions during historic times. T

Popular Mineralogy

Mineralogy and earth science for the amateur mineralogist and serious collector

James Dwight Dana: An American Mineralogist

by Andrew A. Sicree

The young mineral collector

The foremost American geologist and mineralogist of the 1800's was James Dwight Dana (1813-1895). Known to mineral collectors primarily for his *System of Mineralogy*, first published in 1837, Dana was also the author of the influential *Manual of Geology*, and other works including a report on the geology of the U.S. Exploring Expedition (1849), and monographs on corals, crustaceans and volcanology.

Growing up in Utica, New York, where his father owned a hardware store, the young Dana was artistic, musically talented (playing the piano and guitar), and competent with hand tools. His family was religious and Dana lived his entire adult life as both a scientist and a devout Christian. Like many youngsters, Dana got his start in science by collecting insects, plants, and rocks.

Benjamin Silliman's influence

Dana studied at Yale where Benjamin Silliman, founder and editor of the *American Journal of Science*, (after whom sillimanite is named) was one of his professors.

After graduating from Yale, Dana served as an instructor for the U.S. Navy. Sailing in the Mediterranean, he observed an eruption of Mt. Vesuvius and a letter describing the episode was published in the *American Journal of Science.*

Returning to Yale in 1834, Dana undertook systematic studies of minerals. Utilizing his childhood mineral collection and Professor Silliman's more extensive cabinet of minerals, Dana studied and organized minerals into groups based on their chemistry and crystallography. His resulting work, the famous *System of Mineralogy*, was published in four editions during his lifetime, and in many additional editions after his death. His method of chemical classification of minerals remains as the basis for the study of mineralogy to this day.

Exploring the Pacific

In 1838, Dana became the mineralogist and geologist of the U.S. Exploring Expedition. This oceanographic expedition consisted of six U.S. Navy ships and included a team of civilian scientists. Sailing into the Pacific Ocean, Dana explored the mountains in Andes, Mt. Shasta in the Cascades of northern California, Hawaiian volcanoes such Kilauea, and the reefs and atolls of numerous South Pacific islands.

Returning home after four years, he spent much the next decade writing scientific reports of the expedition's findings. It was during this period that Dana married Silliman's daughter Henrietta (undoubtedly his tales of high-seas adventures helped to endear him to the young Henrietta).

As a professor of geology and mineralogy at Yale, Dana succeeded Silliman and taught students for more than forty years. During his career he published more than 200 papers and books. He retired in 1892, only a few years before his death.

The System of Mineralogy

Dana's *System of Mineralogy* has a had an amazing history. 170 years after its first edition, the *System of Mineralogy* continues to thrive. Repeatedly revised and updated by editors including W. E. Ford (13th and 14th editions, 1912-1929) and Cornelius S. Hurlbut (15th through 21st editions, 1941-1999), it has most recently been revised by Cornelius Klein and is currently available in the 22nd edition under the title of *Manual of Mineral Science*.

Another famous Dana is James Dwight Dana's son, Edward Salisbury Dana (1849-1935). A mineralogist and crystallographer like his father, E. S. Dana also made significant contributions to the mineral sciences. He published his *Textbook of Mineralogy* in 1877 and the sixth edition of his father's *System of Mineralogy* in 1892.

- Andrew A. Sicree, Ph.D.

Mississippi Valley-type Minerals

All too often, collectors will hear other mineral collector refer to a locality for sphalerite or galena as being "Mississippi Valley-type." The term is much over-used to the point of becoming meaningless.

Properly speaking, the term Mississippi Valley-type (MVT) is reserved by ore geologists for lead-zinc deposits in which the principal ore minerals are sphalerite (zinc sulfide) and galena (lead sulfide) and the host rock is typically a sedimentary carbonate rock (or a sandstone, perhaps). I'd add that a pure MVT should have simple mineralogy, be located in relatively undisturbed, un-metamorphosed host rocks, and have no obvious igneous heat source to form the ore minerals. This latter criterion would exclude the Illinois-Kentucky fluorspar district with its abundant fluorite and igneous heat source.

Unfortunately, the MVT name has become so broadly applied that it is becoming synonymous with "lead-zinc deposit".

The Upper Mississippi Valley district, located in southern Wisconsin, northern Illinois and eastern Iowa, serves as a prototype for MVTs. Unfortunately, all of the lead and zinc mines in the Upper Mississippi District are now closed and the district has been largely forgotten, although some fine specimens of galena and sphalerite still come out of old collections. Other MVT districts include the famous Tri-State District (in the area near Joplin, Missouri), and the Viburnum Trend (in Missouri).

It is interesting to note that the lead in all of these central U.S. districts is unusual in that it has a strong radiogenic component. This doesn't mean it is radioactive (it isn't), but rather that these districts' leads are enriched in the lead isotopes lead-207, lead-208, and lead-209. These lead isotopes are "radiogenic" because (unlike lead-204, the other abundant isotope) they are formed by the radioactive decay of uranium and thorium.

Radioactive uranium-238 decays by steps through a *decay series* that eventually produces stable (non-radioactive) lead-206. Likewise, radioactive uranium-235 generates stable lead-207, and stable lead-209 is produced at the end of the decay series of radioactive thorium-232. Sometimes highly radiogenic leads are referred to as "J-type" leads (for Joplin). The presence of J-type leads in a mineral is a clue that the lead may have been scavenged from a rock that originally contained some uranium and/or thorium.

Mississippi Valley Type lead-zinc deposits occur worldwide and currently account for somewhat less than one-fifth of the world's total production of lead and zinc.

- Andrew A. Sicree, Ph.D.

Dr. Andrew A. Sicree is a professional mineralogist and geochemist residing in Boalsburg, PA. ***Popular Mineralogy*** *provides technical answers to your general mineral questions. If you have a question you'd like to have answered, please send email to sicree@verizon.net*

Mineral Etymologies

Etymology, the study of word origins, gives us clues to the origins of the names of minerals.

***Cobalt, cobaltite*:** Each home, in Old German folklore, had its familiar spirit, called a *kobold*. This term was assembled from *kobe*, or cottage, plus the ending of *wield*, to rule, hence the *kobold* was the "ruler of the house." Gradually, this household spirit adopted a prankish or mischievous nature and was blamed for any mishaps such as spilled kettles or dropped plates. Among mining communities, the *kobold* took on a more malignant nature and was held to be the source of certain diseases. Thus when miners encountered minerals with metallic luster that, despite smelting, did not produce metal, they blamed the failure on the mining goblin or *kobold*. In the 1730s, Georg Brandt, a Swedish chemist, was able to extract a new metallic element from these reluctant minerals, and gave it the German name *kobold*, which became *cobalt* in English. *Cobaltite* is a cobalt iron arsenic sulfide mineral.

***Jade, nephrite*:** Centuries ago, jade was believed to prevent colic and cure kidney diseases. The Greek word for kidney, *nephros*, is the root of *nephrite*, the modern term for one of the two jade minerals, the other being *jadeite*. In the 1500's, Spanish Conquistadors encountered jade in use by many Mesoamerican cultures, and this "colic stone" was called *piedra de ijada* or "stone of the colic" in Spanish. The French shortened the Spanish term to *l'ejade* or *le jade, which* was further shortened in English to *jade*.

***Magnet, magnetite, lodestone*:** The town of Magnesia is located in Thessaly (Thessalia), the central part of the Greek mainland. In ancient times this town was the source of a black stone that had the unusual ability to attract iron metal. This "stone of Magnesia" or *lithos Magnetis* is the source of the modern term *magnet* and hence the mineral *magnetite*. The magnetite used in early magnetic compasses was called *lodestone* because *lode* was the Middle English term for "way" and the *lodestone*, used to make a compass, was the stone that pointed out the way.

***Nickel, niccolite*:** *Nickel* is an old Teutonic word for "demon" (recall that one nickname for the Devil is

"Old Nick"). Early German copper miners occasionally encountered metallic ores that, although they resembled the ores of copper, produced no metal when smelted. Thinking that a demon had possessed the ore, rendering it useless, they referred to it as *kupfernickel*, or "demon copper." A new metallic element was isolated from *kupfernickel* (the mineral *niccolite*, a nickel arsenide) in 1751 by Axel F. Cronstedt, a Swedish mineralogist. Cronstedt retained the German mining term and called the element "nickel".

Ref.: *Thereby Hangs a Tale*: *Stories of Curious Word Origins*, by Charles Earle Funk (Harper & Row, New York, 1950).

- Andrew A. Sicree, Ph.D.

Mineral Meanings

Meanings of some terms with mineralogical connections:

***To earn one's salt; to be worth one's salt*:** The word *salt* in these expressions can be connected to the word *salary*. To "earn one's salt" is to "earn one's salary…" Both *salt* and *salary* come from the same Latin word for salt: *sal*. In the Roman army, in addition to his pay, each soldier got a *salarium*, his "salary" which was an allotment to pay for the purchase of salt. Salt is vital to life and health; no soldier could function without it, especially in hot climates. Thus, a soldier not worth his salt was worthless.

Ref.: *Hog on Ice & Other Curious Expressions*, Charles Earle Funk (Harper & Row, New York, 1948).

- Andrew A. Sicree, Ph.D.

Why does my barite smell so bad?

Trimming or cutting barite can be an odoriferous experience. Barite, and other minerals, may be "fetid," or foul-smelling when broken or scratched. This phenomenon occurs because you are breaking open fluid inclusions within the barite crystal.

Natural crystals are never completely pure. Many minerals form by precipitation from a water-rich fluid, and small amounts of the formational fluids can be caught up in the growing crystal. Geoscientists study fluid inclusions in quartz, calcite, barite, dolomite, and other transparent crystals because they preserve samples of ancient fluids and give clues to conditions (such as temperature and pressure) under which the mineral grew.

Fluid inclusions are microscopic "vugs" trapped within a mineral crystal. These vugs are small liquid-filled pockets that may also contain gases and/or solids.

Some fluid inclusions may be large enough to see with the naked eye, but most require a microscope. Many fluid inclusions are smaller than 0.1 millimeters across, and they can even be smaller than 0.001 millimeters in diameter. A mineral crystal may contain billions of fluid inclusions per cubic centimeter. This means that a one-inch by three-inch by three-inch crystal can contain more than 10 billion microscopic fluid inclusions.

Fluids in the inclusions are usually mostly salt water. Gases such as carbon dioxide or methane may occur in a gas bubble floating within the inclusion's fluid. Solids, such as crystals of halite (sodium chloride) or sylvite (potassium chloride), also can be found within some fluid inclusions.

In fetid barite, the inclusions contain a small amount of hydrogen sulfide. This foul-smelling gas (it has the smell of rotten eggs) is liberated from fluid inclusions when fetid barite is scratched or crushed. The inclusions are very small in volume so the total amount of hydrogen sulfide released is very small. But your nose is extremely sensitive to hydrogen sulfide; you can smell the gas at the parts per billion (ppb) level.

- Andrew A. Sicree, Ph.D.

Federations *Continued from page 2*

The EFMLS Newsletter is available through the link on our web site **www.ems.psu.edu/nms/** or remind Dave Glick to bring a printed copy to a meeting for you to see. The November issue includes the first message from Ellery Borow, newly elected President. One of his goals is to put the EFMLS Newsletter in the hands of every member of every club; to that end, he says, "this fine publication is available to everyone on the web at <www.amfed.org/efmls>... I'd really like to be able to say that the EFMLS News is read by every member."

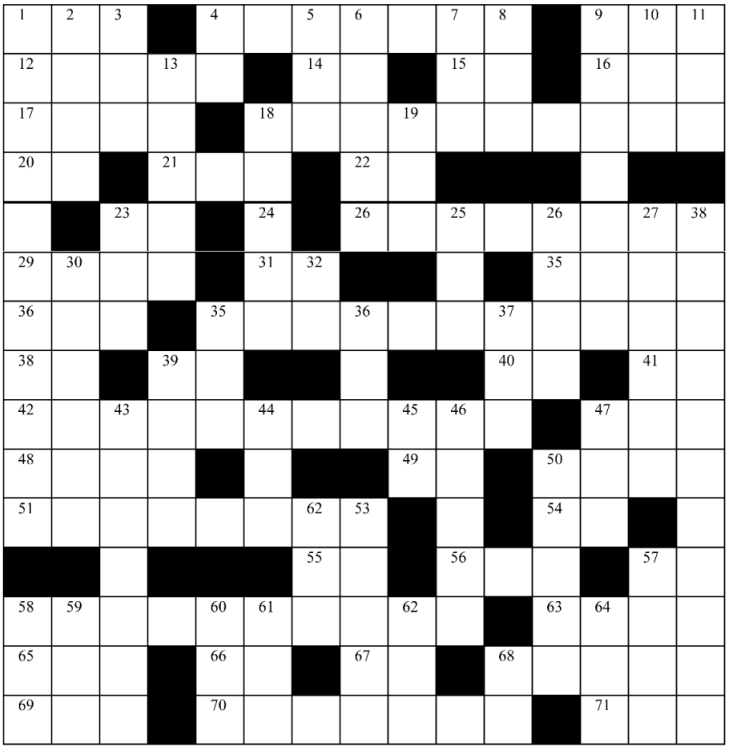
The AFMS Newsletter is available by the same methods. The November issue is packed with information arising from the recent annual meeting. President Shirley Leeson says her most important goal for 2008 is supporting the U.S. GEMSTONE **BIRTHSTONE STAMPS** proposal; see the article on page 2 of this Bulletin. "That would be a collection of twelve stamps. Wendell and Bob Jones are teaming up to put this information before the public. YOU can help. If your club is having a show, please copy the flyers, you can get them from the AFMS website: <www.amfed.org>."

That's all we have space for this month; please see the web sites for the rest of these articles and many others in both Newsletters. There's a lot there!

- Editor

Crystal Matrix Crossword

Micas



ACROSS

1 to sting
4 mica is capable of _____
9 manganese oxides
12 hockey players
14 of age
15 laugh
16 water mineral
17 Roman tyrant
18 major silicate group
20 Nova Scotia (ab.)
21 taxi
22 et ___ Brutus?
23 _ _ Chesterton
24 to cripple
29 large hairy animals
31 Oregon
33 Odgen _____
35 flying fossil
38 of
39 calcium
40 barium
41 not hi
42 vermiculite has been used in _____
47 how he got the rock
48 pulls
49 do re mi __ so la ti
50 a wrestler
51 mica flexibility like ___
54 helium
55 atomic adsorption
56 ____ the day
57 Rhode Island
58 lithium mica
63 state
65 bigger than monkey
66 another w
67 near (ab.)
68 ___ windows used mica
69 peace (Russian)
70 black mica
71 guy's name

DOWN

1 another mica with some lithium
2 highest cards
3 as ___ your wishes
4 bachelor's
5 country and war
6 how far down
7 National Health Ins.
8 The Gift of ___
9 to prospect for oil
10 five victories
11 descent
13 made of minerals
18 head of monastery
19 Congressional Comm.
23 a pike
25 to move ahead
26 native of Peru
27 where lunatics are
28 micas in kimberlites
30 smelly chemical
32 rhenium
35 friend
36 runs batted in
37 absolute (ab.)
39 to swear
43 trader
44 boxer
45 __ Mice and Men
46 part of pearl oyster
47 what pay is ____
50 micas: ____ silicates
52 California
53 person in Heaven
57 to rant and ____
58 he is on the _____
59 near the surface
60 to make a knight
61 yes (French)
62 three
64 to pull
68 selenium

LAST MONTH'S SOLUTION - Gems

G	E	M	S	■	T	S	A	V	O	R	I	T	E	S
A	L	O	E	■	U	■	G	■	I	■	■	B	S	A
L	A	B	E	L	S	■	I	■	L	A	■	A	L	P
A	N	S	D	■	K	S	■	H	E	F	T	■	■	P
■	■	■	■	■	M	S	■	R	■	D	R	E	N	C	H
N	■	R	I	O	■	R	A	F	■	I	C	E	■	I
O	B	E	R	O	N	■	H	U	C	K	S	T	E	R
N	■	■	■	■	N	A	B	■	R	C	A	■	■	I
F	E	L	D	S	P	A	R	■	C	A	R	B	O	N
E	■	E	A	T	■	G	E	M	■	N	A	P	■	E
R	H	I	N	O	S	■	D	■	B	S	■	■	■	■
R	■	■	A	N	T	E	■	B	E	■	O	A	R	S
O	R	B	■	E	E	■	T	■	N	U	G	G	E	T
U	F	O	■	■	A	■	O	■	D	■	L	O	D	E
S	P	O	D	U	M	E	N	E	S	■	E	G	O	S

Some Upcoming SHOWS AND MEETINGS

Our web site http://www.ems.psu.edu/nms/ has links to more complete lists and details on mineral shows and meetings around the country.

Nov. 10, 2007: 16th Annual "Rock Swap" for Mineral, Fossil, Shell, Gem and Lapidary enthusiasts, by Richmond Gem and Mineral Society. Meeting Hall of Ridge Baptist Church, 1515 East Ridge Road, near Regency Square Mall and Douglas S. Freeman High School, Henrico County, Virginia, north of Richmond. Indoors, rain or shine; open to the public, free admission; specimen donation requested from swappers to help defray costs. Sat. only, 9:00 a.m. - 3:00 p.m.

Jan. 27, 2008: Annual Auction, by The Mineralogical Society of Northeastern Pennsylvania. Moosic Presbyterian Church Annex, 625 Main St., Moosic, PA. Featuring rock & gemstone rough, finished gemstones, faceted, cabochons, crystals, jewelry, fossils, mineral specimens, rockhounding tools, books, & much more. Free parking, free admission, public welcome. 1:00 p.m. - 4:00 p.m.

February 23 - 24, 2008: EFMLS Convention, Jackson, Mississippi.

May 3 - 4, 2008: Annual Show & Sale by The Mineralogical Society of Northeastern Pennsylvania. Oblates of St. Joseph, 1880 Hwy. 315, Pittston, PA 18640. Sat. 10:00 - 5:00, Sun. 10:00 - 4:00.

May 21 - 26, 2008: Tri-Federation Rockhound Rendezvous, Texas Springs, Nevada. 4 to 6 different sites: pink limb casts, small limb casts and bogwood, snakeskin agate, jasp/agate limb casts, geodes, and more. Daily collecting trips, potluck dinners, daily Happy Hours, evening campfires, map exchange and tailgate displays. All AFMS members welcome. See Nov. AFMS Newsletter, <www.amfed.org> T

INVITE A FRIEND TO JOIN THE SOCIETY

The Nittany Mineralogical Society prides itself on having the finest line-up of speakers of any earth sciences club in the nation. If you'd like to be part of our Society, dues are $20 (regular member), $7 (student rate), $15 (seniors), $30 (family of two or more members, names listed). Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form, make checks payable to "Nittany Mineralogical Society, Inc." and send them to the

Nittany Mineralogical Society, Inc.
P.O. Box 10664
State College, PA 16805

or bring your dues to the next meeting.
We want to welcome you!

The Society's Schedule

We generally meet on the **third Wednesday** of each month, August through May, in the Earth & Engineering Sciences Building on the west end of Penn State's University Park campus, off White Course Drive. (Except Nov. 14, 2007, the second Wednesday, and Dec., at a different location - always check our web site for a specific month's meeting.) Social hour with refreshments starts at 6:30 p.m., and the meeting starts at 7:30 p.m. Everyone is welcome!

Board Meetings are now generally held on the first Wednesday of the month at 7:00 p.m. Please contact the President to verify time and location for a particular month. Board meeting minutes may be requested from the Secretary.

For sale: Equipment & Materials

For sale: Very large collection of gemstone material, prefer to sell as one lot; including much jade in various types & colors; mostly rough, plus some slabs; some fine Coober Pedy opal. Also equipment and jewelry making supplies from jewelry studio and production shop. Contact Daniel G. Reinhold in Mill Hall, PA; phone 570 748-3201 after lunch every day, or e-mail: dreinhold@suscom.net

Mineral Business and personal collection for sale (hundreds of specimens plus supplies and equipment included). Call Terry at 570-672-2325 Mon. - Sat. 9:00 a.m. - 11:00 p.m. If I'm not there, leave a message. T

SOCIETY OFFICERS

David Glick (President) 237-1094 (h) xidg@verizon.net
Dr. Bob Altamura (Vice-President) 814-234-5011 (h)
e-mail: raltamur@fccj.edu
John Passaneau (Treasurer) 814-863-4297 (o),
e-mail: jxp16@psu.edu
Frank Kowalczyk (Secretary) 238-8874 (h, 8-9 p.m.)
e-mail: fjk12@scasd.org

OTHER CONTACTS

Field Trips: Ed Echler 814-222-2642
e-mail preferred [new]: eechler@comcast.net
Junior Rockhounds: Dr. Andrew Sicree 867-6263 (h)
e-mail: sicree@verizon.net
Membership Chair: David Glick (see above)
Programs, Publicity: Volunteers needed

The **Bulletin Editor** will welcome your submissions of articles, photos, drawings, cartoons, etc., on minerals, fossils, collecting, lapidary, and club activity topics of interest to the members. Please contact:

David Glick E-mail: xidg@verizon.net
209 Spring Lea Dr. phone: (814) 237-1094 (h)
State College, PA 16801-7226

Newsletter submissions are appreciated by the first Wednesday of the month. If you include photographs or graphics, please do not embed them in word processor files; send them as separate graphics files (TIF, or good to highest quality JPEG files, about 1050 pixels wide, are preferred). Please provide the name of the photographer or artist.