



The Conglomerate

Newsletter of the Baltimore Mineral Society

www.baltimoremineralsociety.org

Volume 11, No. 5

May 2016

Program Notes - September Meeting

by Jake Slagle, Program Chair

Bancroft!

Member Jim Stauffer and his wife Mimi spent many summers traveling and collecting in the Bancroft, Ontario area of Canada. Jim will share some of their adventures with us in his talk at the October meeting entitled "Minerals, Localities and Activities of Bancroft Ontario. Jim promises to share pictures, specimens and stories of this famous collecting area.

As usual, the September 28th meeting will be held at the Natural History Society of Maryland and begin at 7:30 pm. Refreshments will be provided by Anitra Schorr.

Please Note: NHSM informs us that the parking lot may be torn up to some extent at the time of our BMS meeting. The contractor is not specific about the work to be done or the timing. Be alert as you approach the parking lot. We have permission to park in the St. James Lutheran Church parking lot, which is the lot directly behind (west of) the NHSM building. A short path connects the two properties, but be advised that anyone with difficulties walking may have difficulty walking down the dirt/rock path between the properties. Please take care! Note that many of the streets in the area are one way. More information will be distributed by email as it becomes available.

To the church parking area.... Go past NHSM and make a right turn on Overlea Ave. Just after the short block of shops, make a right turn into the narrow driveway and park in the lot behind what appears to be the church school.

Desautels: Celebrating Sixty Years

by Mike Seeds

BMS will present the 60th Annual Paul Desautels Micromount Symposium at the Friends School the weekend of October 14 - 16. There will be dealers, giveaway tables, silent and voice auctions and lots of trading and talking, plus three lectures of interest to all mineral collectors as including micromounters.

Hall of Fame inductions will take place Saturday afternoon. The Micromounter's Hall of Fame was established by BMS, and on Saturday afternoon it will induct two new honorees. Robert "Bob" Rothenberg has been an active collector, speaker, and micromounter for many years. The late Randolph "Randy" Rothschild was an active member of BMS for many years and faithfully served the hobby of mineral collecting and micromounting.

After the Hall of Fame induction, Bob Rothenberg will speak on Collecting at Stoutameyer Branch, VA. Stoutameyer Branch is a stream located near Staunton Virginia, where boulders and cobbles ofmiarolitic nepheline syenite can be found in the stream bed. Flattened cavities found in the dense gray rock are similar to those of the Buck Hill formation, and the site is known for albite, arfvedsonite, fluorite, and chlorite group minerals. Bob will discuss his finds at this interesting site.



*Fluorite from Stoutameyer Branch
FOV: 1.5 mm.
Photo: Bob Rothenberg*

continued on page 3

Baltimore Mineral Society

The BMS was established in order to allow its members the opportunity to promote the study of mineralogy and to act as a source of information and inspiration for the mineral collector. We are members of the Eastern Federation of Mineralogical Societies and affiliated with the American Federation of Mineralogical Societies.

Meetings are held the 4th Wednesday of each month (except November, December, June & August) at the Natural History Society of Maryland beginning at 7:30 p.m. Visit the club website <www.baltimoremineralsociety.com> for directions.

Yearly dues are \$10 for individual members and \$15 for family memberships. Send payment along with your name, list of family members, if applicable, address, phone and e-mail to: BMS, PO Box 302; Glyndon, MD 21071-0302.

Officers:

President.....Jim Hooper
<[ijhooper at jhu.edu](mailto:ijhooper@jhu.edu)>

Vice President Alice Cherbonnier
<[alicecherbonnier at gmail.com](mailto:alicecherbonnier@gmail.com)>

Secretary.....Jake Slagle
<[jake at marylandminerals.com](mailto:jake@marylandminerals.com)>

Treasurer Carolyn Weinberger
<[cscrystals2 at gmail.com](mailto:cscrystals2@gmail.com)>

Directors:

Bernie Emery Al Pribula
Brad Grant Steve Weinberger

Conference Chair Mike Seeds

EditorMike Seeds
<[mseeds at fandm.edu](mailto:mseeds@fandm.edu)>

Write for "The Conglomerate"!

Send news, announcements, comments, observations, or articles to <[mseeds at fandm.edu](mailto:mseeds@fandm.edu)>. No e-mail? Hand in your submission at a meeting.

*Non-commercial reprint
permission granted to
non-profit organizations
unless otherwise noted.*

President's Postings

by Jim Hooper, BMS President



Happy Autumnal Equinox! The earth has spun around the sun once again to achieve 24 hours divided equally into day and night. Only happens in Spring and Fall. A new Fall season will be upon us and it may soon be cool enough to get back to some outdoor activities. A little rain would help in the yard and garden where cracks in the soil have appeared and weeds and wild grasses have filled in any empty spots. I'm not hoping for a hurricane or anything of that proportion. I stuck around the neighborhood mostly during the hot summer where it's been too hot to pull weeds or even tramp around in the woods on rock expeditions. I hope yours was a little more eventful. Would love to hear of some good rock hounding trips and see any finds. Of course in a couple of months we'll be looking out to see if the first frost has appeared. At least then we'll be able to see more deeply into the wooded areas for potential prospecting. In the meantime I'm hoping the spring rains we had so much of will contribute to a brilliant fall foliage display.

And while it was a quiet summer rock wise, I'm looking forward to the Gem Cutters Guild show at the Howard County fairgrounds on September 24th and 25th. Always a good show with a wide variety of minerals, gemstones, jewelry, cabs and so forth in a great venue. We'll be looking for volunteers to spend an hour (or more if you want) at the BMS information table alongside our pals from the Chesapeake Gem and Mineral Society. We'll get a sign-up sheet to go around at the meeting. I hope you can spare an hour since this is a terrific venue for attracting more members and encouraging interest in minerals. The cross-talk of the two club's members is a good way to meet like-minded mineral hunters as well.

The Desautels Symposium on micro-minerals is slated for October and to be held at the Friends School in Baltimore. If you're curious about the micro hobby you can meet and talk with micro-mounters from around the world and there will be minerals for give away and for sale. Small, medium, and large sizes are typically available. It's a great place to see the amazing world of micro minerals under the 'scopes' that most of the visiting and local members bring. Sa One of the Hall of Fame honorees this year is the late Randy Rothschild, a prominent member of BMS and originator of the Micromounters Directory. The other is Bob Rothenberg, a prominent mineralogist and field collector whose photographs are outstanding.

Saturday lunch is provided with your registration fee! You can register at the meeting or via mail for \$30 in advance or \$35 at the door.

See you at the meeting, at Gem Cutters, and at Desautels.
Hooper

Minutes From our Last Meeting

by Jake Slagle, Secretary



President Jim Hooper called the July 27 meeting of the Baltimore Mineral Society to order at 7:35 PM. Minutes of the previous meeting of May 25 were not available because of computer transmission issues.

Officer Reports - none

Unfinished Business - none

New Business

President Jim requested that members consider potential nominations for officer positions and/or Board seats for discussion at the Society's next scheduled meeting on September, 28.

Mineral of the Month

There was none as the program soon to take place was to be a show and tell.

Announcements - None

After refreshments, numerous members gave presentations showing and describing notable and unusual specimens from their collections. The meeting ended at about 9 p.m.

Respectfully submitted,
Jake Slagle: Secretary



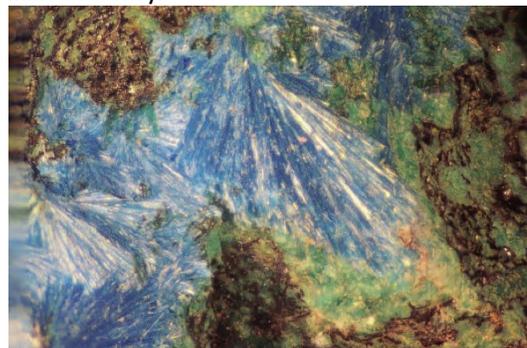
Lyle Peterson, Herb Close, Fred Paras and Bernie Emery check out minerals at the July meeting. Photo: M. Seeds

Desautels

continued from page 1

Saturday evening, a presentation A Tribute to Randy Rothschild will be given by Lou D'Alonzo, Al Pribula, Mike Seeds, and Steve and Carolyn Weinberger. Randy was well known as a collector and micromounter, and is famous for preparing beautiful mineral mounts.

Sunday morning at 10:30 am, Michael Pabst will give a slide presentation on Copper Silicates of Arizona. Michael is well known for his beautiful photography, and the copper minerals of Arizona are famous for their bright colors and delicate beauty.



Shattuckite $Cu_5[(OH)_2](SiO_3)_4$ a copper silicate. New Cornelia Pit, Ajo, Arizona. Field of view 4 mm. (Photo by M. Seeds)

Registration materials are available at the BMS web site (<http://www.baltimoremineralsociety.org/>) or from Carolyn Weinberger.

The Gem, Lapidary and Mineral Society of Washington, DC
invites you to a
Sale & Auction
save the date
Sunday, October 30, 2016
Gems Pearls* Lapidary Materials* Minerals*
Books & Equipment New & Estate Jewelry*
& Creations by Local Artists

In Siberian Permafrost

In the middle of the 20th century, chemists synthesized molecules they called MOFs – metal-organic frameworks. They were important materials because they contained cavities that could trap gases. That has become important these days because MOFs are being considered as traps for carbon dioxide from power plants. But making MOFs isn't easy.

Jump to today when Tomislav Friščič, a scientist at McGill University, read a 1963 paper about two rare minerals, stepanovite and zhemchuzhnikovite, found in 750 feet deep drill holes through Siberian permafrost. Friščič noticed that their formulae were similar to MOFs, and X-ray diffraction on the original samples confirmed that their structure resembles MOFs. They are the first known naturally occurring MOFs. Friščič and his team are now looking for other more abundant naturally occurring MOFs.

Manganese Oxide on Mars May Mean . . .

The Mars rover Curiosity has found traces of manganese oxide on Mars and that hints at an interesting story. But to understand that story, NASA scientists have to know a lot about how planets work.

Manganese oxide on Earth appears in more recent deposits that formed after Earth developed an oxygen-rich atmosphere. So the detection of the oxides on Mars suggests it once had an oxygen rich atmosphere. The oxygen may have been released when the young Mars cooled, its magnetic field weakened, and radiation from space broke up water molecules to release the oxygen needed to make the manganese oxide. This is exciting because the origin of life on Earth seems to depend on the presence of oxygen and water, so there may have been life on Mars when it was young before its atmosphere leaked away.

The other way manganese oxide can form on Earth is through the action of microbes. Of course, if that happened on Mars, then there had to be living microbes there. In either case, ancient life on Mars looks better for this discovery.

The First Water on Earth

The evidence seems clear that Earth formed with a surface of molten rock heated by an intense storm of meteorite impacts. As the rock cooled, and hardened, a crust formed and then the first rains fell to form the first oceans. When did that happen? Little zircons no thicker than a human hair may hold the secret.

Some of these zircons date from 4 billion years ago, and chemical evidence links them to the presence of water. Now a new study shows that at least some of these zircons must have formed not in tectonic plate motions but rather in impact craters. The heat and compression during a meteorite impact can form zircons.

If some of those ancient zircons were formed by impacts, they suggest that water already existed on Earth's surface very early in its history while meteorites were still bombarding the surface of the planet. Thus the oceans on Earth may be very old indeed.

Life on Magnetic Earth

Earth is a giant magnet, but until its metallic core formed roughly 500 million years ago, it was a weak magnet. The formation of the core strengthened the magnetic field, and that protected the atmosphere from cosmic rays and high energy particles from the sun. Earth's atmosphere could be thicker, once the core formed.

The thicker atmosphere and stronger magnetic field better protected life exposed on Earth's surface starting about 500 million years ago. Before that, life may have needed the protection of the ocean. The Cambrian explosion, now thought to have occurred in Earth's oceans about 542 million years ago, produced more complex living things, and some of those were able to leave the shelter of the oceans and populate the land. We may be here because iron and nickel sank to Earth's center to form a metallic core.

BMS Field Trip!

from Michael Seeds



Mineral of the Month-Sphalerite ZnS

By Steve Weinberger

Sphalerite was named by Ernst Friedrich Glocker in 1847 from the Greek word Spha/eros, meaning treacherous. This was because of its similarity to more easily smelted ores. The alternate name blende is from the German blenden (to deceive.)

It forms in the isometric (tetrahedral,cubo-octahedral, dodecahedral) system. Twinning is common, cleavage is perfect, refractive index is 2.369, and hardness is 3.5-4.0. It's brittle and the fracture can be uneven to conchoidal.

Sphalerite can exhibit many colors such as dark brown,pale yellow, red-brown,black,yellow green and red. The paler colors can be transparent to translucent .It has a resinous to adamantine luster, can be piezoelectric, and its streak is pale to colorless.

Sphalerite is found in low temperature deposits worldwide and is associated with galena. Just some of the locations include Ontario,Norway, South Africa,Germany, Guinea, Mt. St. Hilaire, and Russia.

Other members of the sphalerite group are

Browneite
Coloradoite
Hawleyite
Ishiharaite
Metacinnabar
Rudashevskyite
Stillerite
Tiemannite

References:

Bernard, J.H.& Hyrs, J. *Minerals and their Localities*
Mindat.org
Sinkankas, J. *Mineralogy for Amateurs*

The quarry owner's pretty daughter laughed because she realized that Slick's Puzzle was a trick. He said Sue found an amethyst and that's quartz. All the rest of the details were extraneous.

answer from page 7

Slick's Puzzle

Color in Minerals – Part VI: More on Colors due to Transition Metals

by Al Pribula

As you might have guessed from the previous article, the presence of transition metal ions is one of the three most common color-producing mechanisms for minerals. (The other two will be discussed in later articles in the series.) In the previous article, the transition metals were introduced, their mechanism of color production was discussed, and a few examples were given. There are numerous other examples of mineral colors produced by transition metal ions either idiochromatically (when the ion is an essential part of the composition of the mineral) or allochromatically (when the ion is a substitutional impurity). Colors caused by d-d transitions in garnet group minerals (almandine, spessartine, etc.) will be discussed in the next article in the series, colors caused by chromium will be covered more fully in a later article in the series, and further examples will be presented when specific minerals (beryl, tourmaline, and others) are covered in articles to come.

Chromium can be present as Cr^{3+} (which causes a green or red color as previously mentioned, and sometimes pink or violet), as the Cr(VI) species CrO_4^{2-} and $\text{Cr}_2\text{O}_7^{2-}$ (chromate and dichromate ions, respectively, which produce yellow or orange colors), or very rarely as Cr^{4+} . Part X of the series will be devoted entirely to this colorful element.

Cobalt is almost always present in minerals as Co^{2+} . When surrounded by six oxygen atoms, it produces the pink color of cobaltoblodite, erythrite, roselite, spherocobaltite, and the cobalt varieties of adamite, calcite, dolomite, epsomite, and smithsonite. When surrounded by four oxygen atoms, it produces the blue color of spinel and staurolite, and cobalt-doped synthetic forsterite (which is pleochromic (blue and purple-pink) and is used as an imitation of tanzanite). When surrounded by four sulfur atoms, it gives sphalerite a green color. The pigment called cobalt green owes its color to Co^{2+} ions substituting for Zn^{2+} ions in synthetic ZnO (mineral name zincite). The much-less-common ion Co^{3+} is the source of the color in synthetic green sapphire.

Copper most frequently is found in minerals as Cu^{2+} , but it can be found as Cu^+ as well. Cu^{2+} is responsible for producing the idiochromatic blue or green colors (see the discussion of azurite and malachite in Part V) of the

continued on page 6

copper-containing minerals ajoite, antlerite, atacamite, aurichalcite, boleite, brochantite, chalcantite, chrysocola, clinoclase, cornwallite, cyanotrichite, diopside, duftite, gilaite, kioite, libethenite, linarite, mcguinnessite, olivine, papagoite, pseudomalachite, rosasite, torbernite, turquoise, and a large host of other minerals. (There are over 500 minerals which contain copper as an essential component.) It is the source of similar allochromatic colors in many other minerals, such as adamite, dolomite, hemimorphite, pectolite (Larimar), plagioclase feldspar, smithsonite, and tourmaline (var. "Paraiba"). Cu^+ produces its usual red color not by d-d transitions, but by a different mechanism which will be discussed in Part IX of the series. An unusual red-orange color in celestite from Ontario has been attributed to copper, but its exact chemical form wasn't specified.

Iron commonly forms either Fe^{2+} or Fe^{3+} . When surrounded by six oxygen atoms in the lattice, Fe^{2+} is the cause of the green color of actinolite, aegirine, celadonite, epidote, diopside, jade (pale green), melanterite, phosphophyllite, and natural glasses such as obsidian and tektites (especially moldavites), produces a yellow color in ferroan calcite, a brown color in ankerite and ferroan dolomite, an olive-brown color in sinhalite, and contributes to the blue color of some tourmalines. The mineral olivine (called peridot when used as a gemstone) is a solution series of the minerals forsterite (Mg_2SiO_4) and fayalite (Fe_2SiO_4). The color becomes darker green with increasing fayalite content (that is, with increasing amounts of iron). When surrounded by eight oxygen atoms, Fe^{2+} produces a red color, as in almandine. When surrounded by four oxygens, this ion gives gahnite and gahnspinel a blue color and orthoclase a yellow color. As was mentioned in Part II, it produces a yellow/orange/brown color when surrounded by four sulfide ions in sphalerite. (With a very large proportion of the zinc ions substituted by the Fe^{2+} , the black sphalerite variety called marmatite is produced.) Fe^{3+} usually produces a yellow/orange/brown color, as in chrysoberyl, diopside, goethite, hematite, jade, kyanite (yellow-green) siderite, spinel, spodumene (var. triphane), staurolite, and topaz. In chalcocite, the green color results from a combination of blue (from Cu^{2+}) and yellow (from Fe^{3+}). In spinel, if Fe^{2+} and Fe^{3+} are both present, the blue color due to Fe^{2+} and the yellow color due to Fe^{3+} can combine to produce a bluish-green color. Some iron-containing minerals (such as hematite and magnetite) have a dark brown or black color due to charge-transfer transitions between Fe^{2+} and Fe^{3+} (to be discussed in Part VIII of the series).

Manganese is usually present in minerals as Mn^{2+} , less commonly as Mn^{3+} , and very rarely as Mn^{4+} . When it is surrounded by six oxygen atoms in the crystal lattice, Mn^{2+} is the cause of the idiochromatic pink colors of kutnahorite, manganoblödite, rhodochrosite, rhodonite, serandite, and spessartine, the violet color of chambersite, the brown colors of eosphorite and hübnerite, and the allochromatic pink or purple colors of lepidolite and the manganoan varieties of adamite, calcite, epsomite, and smithsonite. The pink-gray rock astorite used for lapidary work is primarily rhodonite and rhodochrosite, and owes its color to these minerals. When surrounded by eight oxygens, it produces an orange color. Mn^{3+} produces the darker pink color of piemontite and manganian epidote, the violet color of jadeite and sugilite (with some "help" from Fe^{3+}), and the dark orange color of spessartine and orange kyanite. It is also believed that Mn^{3+} contributes to the color of lepidolite and of some rhodonite samples, giving a darker pink color than when only Mn^{2+} is present. Mn^{3+} is also believed to be the cause of the pink color in jade and the violet color in diopside (var. violan) and tremolite (var. hexagonite). The yellow-green color of despujolsite is due to Mn^{4+} , but most minerals containing this ion are dark brown or black due to a mechanism to be discussed in a later article.

Nickel is present in the vast majority of its compounds as the Ni^{2+} ion. This ion gives a green color to annabergite, bunsenite, gaspeite, nickelblödite, nickeloan calcite, and (in the form of Ni-bearing clay inclusions) to the chrysoprase variety of quartz. It causes a greenish-blue color in spinel and in synthetic sapphires. If present in spinel along with Co^{2+} , the normal "cobalt blue" is modified to a greenish-blue. The very rare Ni^{3+} ion causes a yellow color in synthetic sapphire, and, if both Ni^{2+} and Ni^{3+} are present in synthetic sapphire, a green color results. Nickel also contributes to the color of some green diamonds, but by a mechanism different from d-d transitions to be discussed in a future article.

Titanium is usually present as Ti^{4+} ; by itself it rarely causes color due to d-d transitions. However, it is frequently involved in producing color by charge-transfer transitions, to be discussed in Part VIII of this series. The Ti^{3+} ion is responsible for the pink color in some synthetic sapphires.

Uranium, when present as U^{4+} substituting for Zr^{4+} in

Color in Minerals

continued from page 6

zircon, causes a blue color. When present as the UO_2^{2+} ion, it is the source of some bright colors (usually yellow or yellow-green), but this is not due to d-d transitions. Exactly how this occurs will be discussed in Part VIII of the series. (This element can also be the source of radioactivity which causes defects in the crystal lattice which can be a source of color, but that's getting way ahead of things.)

Vanadium can be a chromophore either as V^{3+} or as the V(IV) species VO^{2+} (vanadyl ion). (It can also act as a chromophore when present as oxyanions such as VO_4^{3-} and $\text{V}_2\text{O}_7^{4-}$, but the colors are not produced by d-d transitions, but rather by a mechanism which will be discussed in Part VIII of the series.) V^{3+} usually produces a green color, as in goldmanite and other garnets (to be discussed in the next article in this series), beryl, chrysoberyl, diopside, and pargasite. It can be the source of a green or blue-green color in kyanite (with a contribution from Fe^{3+}) and tourmaline. It produces a blue color in axinite, and is believed to contribute to the plum-red color in spinel. It produces an alexandrite-like color change in corundum and a yellow-green/brown-orange color change in sphene. VO^{2+} is less common as a mineral chromophore, but is the source of the idiochromatic blue color of cavansite and bobjonesite and the green color of sincosite, an allochromatic green color in apophyllite, and a blue-green color in wavellite.

The rare-earth elements are a group of fourteen metals which have an electronic structure similar (but not identical) to the more common transition metals. (And they're not really all that "rare." The more common ones have a natural abundance comparable to copper and higher than some familiar metals such as cobalt, lead, tin, and mercury.) Since they have very similar chemical and physical properties to one another (including ionic size), they usually occur together (even if one predominates in a mineral, many of the others are usually present as well) and are very difficult to separate. Often, their presence in a mineral is indicated by "REE," without specifying which of these dominates in a particular sample. The most common of these are cerium and lanthanum. In the names of minerals containing these elements, the predominant cation in the mineral is indicated by putting its chemical symbol in parentheses at the end of the name. Not that many minerals (and very few common ones) have one of these metals as the predominant cation, and those that do tend to have fairly pale colors. Some examples are pink ancylite-(Ce) (can also be yellow), cerite-(Ce) (can also be

brown), coskrenite-(Ce), lanthanite-(Ce) and -(La), yellow-brown ancylite-(La), bastnäsite-(Ce), monazite-(Ce) and parisite-(Ce), and orange-brown florenceite-(Ce). The synthetic glasses marketed as "Zandrite" and "Purple Zandrite" owe their color-change properties to the rare-earth element neodymium (Nd).

In all of these cases of the production of color by d-d transitions in the transition metals, the electrons on the atoms or ions absorb and emit energy, but move between orbitals centered around a single atomic nucleus. Two articles from now (I'll be sticking to the transition metals in the next article when I discuss garnets), colors due to electrons "leaving home" and jumping from one atom to another will be discussed. As we'll see, this is the second of the three most common color-producing mechanisms for minerals.

Slick's Puzzle

by Mike Seeds

Last month, after the Big Dig Mineral Club meeting ended, everyone was sitting around talking when Slick unfolded a piece of paper. "I got a puzzle for you," he said.

Gus groaned but Slick began to read. "Five people went mineral collecting. Two wore blue shirts. Bill found a calcite. Sue found an amethyst. Two of the people were twins. One person wearing a blue shirt found calcite. Jan found nice pyrite and was not wearing a blue shirt. Jack was wearing a blue shirt and he found pyrite too. Paul is not related to any of the others. Someone not wearing a blue shirt found quartz. So . . ." Slick looked around the room. "What was the name of the person who found the quartz?"

Eddy was writing in his notebook. "These are easy. You just make a relational table."

Pudge looked confused. "Are the twins identical or fraternal," he asked.

Suddenly the quarry owner's pretty daughter began to laugh. Slick smiled at her and folded up his paper.

Why did she laugh?

Solution on page ____

Shoebox Adventures: What's New?

text and photos by Mike Seeds

Ask a mineral collector "What's new?" and you will probably hear about something found a month or two ago on a collecting trip, or maybe a new purchase at the rock show last spring. Ask micromounters, and you will hear about what they discovered last night.

There is a shoebox sitting on the end of my bench, and when I sit down, I reach in and pull something out. It's always a nice surprise. This particular box is full of things from the Atlantic Micromount Conference last spring. There are rocks in the box from dealers, from auctions, from giveaway tables and from trades with other collectors. When I find something at a conference, I made sure it was labeled correctly, put it in a baggie to keep it safe, and drop it in my shoebox. Now I'm mining the Atlantic Conference box, and it is full of goodies. I just finished a shoebox labeled "Tucson February", and that was a good box too.

So what's new? I just pulled out a specimen of barite on mottramite from the Total Wreck Mine in Pima County, Arizona. Under the scope it looks as dramatic as a huge sculpture by a modern artist. Imagine great black sheets of glittering textured steel with a brilliant white crown at the top balanced on a pivot and swinging to the breeze slowly slowly in the sunlight. My specimen isn't quite that ponderous. It is only about 8 mm in diameter, but the mottramite is rugged sparkling black and the barite crystals balanced on top are creamy white.



*Barite on Mottramite, Total Wreck Mine
Pima Co., AZ. Field of view 8 mm.*

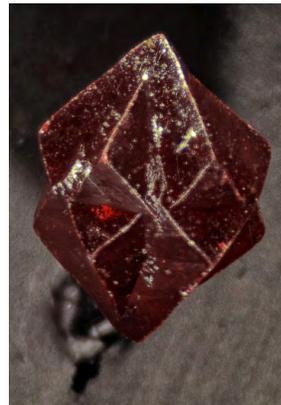
Through the microscope it has the grandeur and dignity of a colossus by a great artist.

Recently I reached into my shoebox and pulled out a little box with a few long natrolite crystals. The label said they were "natrolite with apophyllite from Dotty". Dotty? It took me a little time to research them on Mindat, but I eventually tracked the location to the Weyerhaeuser Lincoln Creek Quarry, Doty Hills, Lewis County, Washington. And the beautiful crystals on the natrolite are actually fluorapophyllite-K. I thought about mounting these delicately balanced on a squirrel whisker or a brush bristle, but they

are too long and the lever arm would make the glue joint break easily. Besides, I do this for fun. In the end, I mounted them on blue paper dots. They show up better on blue paper than on white, and the glue on the paper holds them securely. The little box contained three natrolite crystals, so I saved one for my collection and made up two for my trade box.



*Fluorapophyllite-K on
natrolite. FOV: 16 mm*



*Cinnabar, Sofiya Mine,
Konetsk Oblast, Ukraine.
Crystal 6mm*

What else is new? How about a lovely cinnabar twin from the Sofiya Mine, Donetsk, Ukraine? It's a classic example of twinning in this beautiful mineral. I got it at the Atlantic Conference from Al Pribula and it has been resting in my shoebox. I had forgotten all about it until I pulled it out just a few days ago. What a nice surprise.

Sometimes you are surprised by what comes out of your shoebox, but sometimes you are surprised by what you see turning a rock under your scope. Some time ago I pulled a specimen labeled natrolite out of a shoebox. It hadn't looked really promising when I got it, but it went into the shoebox. Under the microscope with light



*Natrolite crystals hiding deep inside a
tiny vug only 1.2 mm across.*

striking down into a tiny vug you can see stubby natrolite crystals with lovely terminations growing like square stalagmites up from the bottom of the vug. I didn't see those when I decided to put the little chunk in my shoebox, so I'm

glad I kept the rock. It carried a surprise down inside.

If you ask a micromounter "What's new?", leap back. There is always new stuff under the microscope. So, what's new with you?

Safety Matters - Safety 101

by Ellery Borow, AFMS Safety Chair from the AFMS Newsletter, June 2016

To my knowledge there is no rockhound/mineral collector/fossilhound/lapidary/jewelry maker Safety 101 class being offered anywhere. In my years and years... and years of safety research I've sort of made up an informal list of what might be offered if there were such a course .

Now, I'm sure you all as good rockhounds/mineral collectors/fossilhounds/lapidaries/jewelry makers are aware of, in one form or another, and follow pretty much a self-made list of similar guidelines -- and one more specifically tailored to your particular activities. So, the following list may be more of a reminder for veteran collectors and a good reference list for newcomers to our great hobbies.

1. Prepare yourself both mentally and physically for the task at hand
2. Wear and utilize any and all protective gear suitable for the task.
3. Stay hydrated and consider bringing additional water with you to offer to those less encumbered with thoughts of keeping hydrated .
4. Keep with you or know there whereabouts of a med-kit, first-aid kit. Learn how to use the contents of the kit.
5. Let folks know where and when you will be both on the road and situated at a specific location. (Cell phone batteries are notorious for quitting at the most inopportune times.)
6. Keep your personal meds with you.
7. Know the guidelines, safety rules of the mine I quarry I building / equipment one is working with I on I in and by.
8. Keep the "Golden Rule" in mind, and, no, I'm not talking about the rule that says "He who has the gold makes the rules."
9. Mind the needs of the critters you bring with you, and the critters you meet along the way.
10. Set a good example in all you do. (I have a good story about motor neurons to relate in a later Safety Matters article)

11. Every minute has the potential to be one in which one can learn something and teach something -- or a little bit of both . Take advantage of those opportunities.

12. Take more rest breaks than you might think you need for the task at hand - - your body will thank you.

13. Mind the conditions in which you find yourself - too hot , too cold, too wet , too humid, too deep, too close to an edge or slope , too slippery, too hazardous, toooooo . . . anything.

14. Mind that your actions reflect on your club.

15. Note that your attitude makes a huge difference in what you do and how safe you are.

16. Keep your wits about you at all times, you will need them if not now , then later. Personally I have use up so many wits that I am down to a half of one, but that is another story for another time.

17. Have maps handy . Those GPS batteries are also ones that have a habit of failing when most needed.

18. Our hobby is not a race - take the appropriate amount of time to be safe.

19. Keep a personal protective kit with you in case one gets lost and need to spend more time than planned out in the wilds and woolies.

20. Keep in mind the AFMS Code of Ethics - it is as much a safety guide as it is ethics.

21 . Learn to fly the plane if the pilot is incapacitated - a metaphor of all experiences in life.

22. Clean up after oneself.

As one might imagine this list is in no particular order and every situation demands it's own specific requirements . As a general list of guidelines I'm sure another thousand or so could be added without too much thought . This list is just a good starting point.

Be safe, think safety, becauseyour safety matters.

The Conglomerate

Mike Seeds, Editor
516 Bald Eagle Ct;
Lancaster, PA 17601



Upcoming Events

September:

24-25: 52nd Atlantic Coast Gem, Mineral & Jewelry Show at Howard Co. Fairgrounds. **BMS help is needed at our info table!**

28: BMS meeting - 7:30 pm. at Natural History Society. Refreshments brought by Anitra Schorr.

October:

4: Gem Cutters Guild meeting at Meadow Mill at Woodberry - 7:30 pm.

14: Chesapeake club auction - 7:30 pm at Westchester Community Center. (chesapeakegemandmineral.org)

14-16: 60th Desautels Symposium at Friends School.

21-24: EFMLS Convention & Rochester Lapidary Society show - Rochester, NY (www.amfed.org/efmls)

26: BMS meeting - 7:30 pm at NHSM.

Atlantic Coast

Gem, Mineral Jewelry and Fossil Show

Sponsored by the Gem Cutters Guild of Baltimore, Inc.

@ Howard County Fairgrounds

September 24-25, 2016

Saturday 10 AM-6 PM • Sunday 10 AM-5 PM

Kid's Mine, Beads, Fossils, Minerals, Cool Rocks, and more!

\$1.00 off admission with this ad

Free parking • Regular admission \$8.00 • Children 12 and under free with paying adult

www.gemcuttersguild.com

