

The Conglomerate

Newsletter of the Baltimore Mineral Society
<www.baltimoremineralsociety.org>

Volume 7, Number 1
January 2012



January Meeting: Sale and Swap

from Jake Slagle, Program Chair

Our next meeting will be Wednesday, January 25rd at the Cockeysville Fire Hall. Set up will begin at 7 pm with a very short business meeting at 7:30 pm. The program will be a Mineral Sale and Swap.

Members are invited to bring mineral specimens to sell, swap or give away. Members are limited to one 8-foot table per person as space permits and although the Fire Hall has some tables, members should bring tables along if they have them. Call Jake Slagle to reserve your table. Members from other area clubs are being invited, and some BMS members already indicate they will fill their tables with beautiful minerals. Don't miss this special meeting.

Special note: Those selling at a BMS meeting pay a 15% commission to the club.

Brad and Patty Grant will host the meeting.

Dues Renewal

from Carolyn Weinberger, Treasurer



Hear Ye, Hear Ye! The calendar and club bylaws tell us that it's time for you to renew your membership in the club for 2012. Dues for the year remain at \$10 for individuals and \$15 for husband, wife and all children residing in the home under the age of 18.

Renewal is easy. Just fill in the information form included with this issue, and either bring it to the January meeting or mail it to the address shown on the form.

December Meeting Minutes

by Jake Slagle, Secretary

President Bradley Grant called the meeting of the Baltimore Mineral Society to order at 7:28 p.m. on Saturday, Dec. 17, 2011, during the Society's annual Christmas party at Alice Cherbonnier's house. The sole purpose for the meeting was to elect Officers and Directors for the 2012 year. Since there were no additional nominations made, Al Pribula moved that the slate that had been nominated at the Society's November 23, 2011 meeting be elected. Those nominated were as follows:

- President: Bradley Grant
- Vice President: Jim Hooper
- Treasurer: Carolyn Weinberger
- Secretary: Jake Slagle
- Bernie Emery: Director
- Steve Weinberger: Director
- Al Pribula: Director
- Mike Seeds* Director
- Cal Pierson* Director

Fred Parker seconded Al's motion which was passed unanimously. Carolyn Weinberger then moved for adjournment. Fred Parker seconded. The meeting adjourned at 7:30 p.m.



Just a small corner of the food table! No one went away hungry.

*As Co-Chariman of the Desautels Symposium, Cal Pierson and Mike Seeds remain as directors without need for nomination or election.

Submitted by
Jake Slagle
Secretary

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 October, December and June) at the Cockeysville Volunteer Fire Hall beginning at 7:15 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: Bob Hudgins, 6713 Balmoral Overlook, New Market, MD 21774.

Officers:

President.....Bradley Grant
<bgrant@aberdeen-md.org>

Vice PresidentJim Hooper
<jhooper@jhu.edu>

Secretary.....Jake Slagle
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Directors:

Bernie Emery
Ed Goldberg
Steve Weinberger

EditorMike Seeds
<mseeds@fandm.edu>

Write for "The Conglomerate"!

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

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Rubble from the President

by Brad Grant, President



Happy New Year everyone!!!! I hope everyone had a nice holiday season and looking forward to the New Year. Patty and I had a nice holiday and we behaved ourselves with the Holiday Snacks.

With the New Year I made some changes to our website to get it ready for the annual AFMS Web Site Contest. For 2012 the club will also be entering a few of the articles that you've written for the Conglomerate during 2011 in the EFMLS Editors Contest. Mike and Carolyn do a wonderful job with our newsletter and the articles that the club submits the newsletter are top rate. I see no reason why we shouldn't start getting some recognition for this. So please keep submitting stuff to The Conglomerate.

Something on a sadder note is that I received several emails from folks who have collections and due to downsizing or loved ones passing on need to dispose of these collections. Unfortunately, without the influx of new people into our hobby this is going to become more common. There are no easy answers for this either. We all have more stuff than we will ever use or process so we really can't add too much more to our collections. That being said, this is something I would like the club to think about and maybe we can come up with some ideas as to how to handle some of this. In one case, I picked up some fluorescent minerals from an individual that I am going to use to create a display that can be used for outreach or can be taken to shows where we set up a booth.

Speaking of collections, don't forget that the club is having a sale and swap for our January meeting. If you know someone who is not a member, but has stuff they want to sell or trade, please feel free to invite them. This is also a chance for you to talk "shop" with other club members. Patty and I will be bringing the refreshments.

Again, Happy New Year and here is hoping for a fun and safe 2012 for everyone!!!

Reflections upon Collecting Haynesite at the Repete Mine, San Juan County, Utah.

By Patrick E. Haynes

In 1985 I took a temporary job with a construction company in Cortez, Colorado. This soon turned into a full-time position and my family packed up and moved to Cortez. We lived there for the next 19 years. During that time I was exposed to the various uranium and vanadium minerals that could be found on the Colorado Plateau. I had some neighbors that were active rockhounds and they told me that they had cousins who actively mined uranium/vanadium ore from a nearby mine, called the Repete Mine. This intrigued me and I arranged for a visit.



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• Other Local Clubs

♦ **American Fossil Federation.** Meetings are held the 2nd Sunday of alternate months (Jan., March etc.) at 10:30 am at the Bowie Community Center, Bowie, MD. <americanfossilfederation.com>

♦ **Chesapeake Gem & Mineral Society.** Meetings are held the 2nd Friday of each month (except August) beginning at 7:30 pm at the Woman's Club of Catonsville, 10 St. Timothy's Lane. Catonsville, MD.

♦ **Gem Cutters Guild of Baltimore.** Meetings are held the 1st Tuesday of each month except January, July and August beginning at 7:30 pm at Meadow Mill at Woodberry, 3600 Clipper Mill Rd, Suite 116; Baltimore, MD 21211. <gemcuttersguild.com>

♦ **Maryland Geological Society.** Meetings are held the 3rd Sunday of alternate months (January, March etc.) beginning at 11 am at the South Bowie Community Center. <www.ecphora.net/mgs>

♦ **Patuxent Lapidary Guild.** Meetings are held the 3rd Monday of each month at 7 pm. at 169 Defense Highway, Annapolis, MD. <www.patuxentlapidary.org>

Repete Mine

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On the morning of November 26, 1986 I went to the mine and looked over the ore pile sitting outside one of the adits. There were three different uranium minerals in the ore. All were microscopic, but they could cover surfaces up to a few square inches. One formed tiny spheres colored yellow to pale yellowish-green. Another was a vivid green color, essentially fluorescent in the sunlight. The third mineral formed small pointed yellow, and rarely, orange prisms.

One of the miners came out of an adit driving a rubber-tired piece of motorized mining equipment, basically a rugged little open car with a large bucket on the rear. He dumped a load of ore and we introduced ourselves. I pointed out the various minerals observed in the ore and asked if he could take me to them. He readily agreed and I followed him into the mine. After walking less than 100' we encountered an intersection with microscopic yellow minerals on the walls and pillars. I turned off my headlamp and turned on a portable short-wave ultraviolet lamp. The mineral that fluoresced on the surface stood out a brilliant yellow-green in the darkness. It was a great indicator for locating not just it, but also its associated minerals.

I collected several flats of the uranium minerals. The yellow secondary uranium minerals occurred at just one other place inside the mine, but they were not as abundant as they were at the first intersection. During a lunch break, which followed the miners setting off a charge inside the mine, I talked with the mine crew, all three of them, regarding mineralogy, geology, mining, etc. I explained that I was a part-time mineral dealer, selling at the annual Denver Gem & Mineral show and occasionally at other venues. I promised to get the minerals identified and we agreed that I'd give them 25% of sales.

I sent samples of the minerals to Dr. Pete Modreski, a geologist with the United States Geological Survey in Denver. The fluorescent mineral was identified as andersonite and the spheres as boltwoodite. The third mineral had selenium in its chemistry and was unknown. It was a potential new mineral.

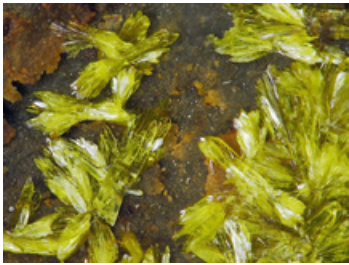
I made some other trips to the mine. The mine was operated by this crew from the spring of 1986 until January of 1987, when they stopped operations due to caving problems. The mine had a reputation for caving, having injured at least one miner in prior operations. This is because the ore is in the Brushy basin member of the Jurassic Morrison Formation, which are mostly soft mudstones. This formation is well-known as a dinosaur graveyard and bones can be found locally.

There were four entrances to the mine. An adit on the north side of the hill was used to install a large fan for ventilation. When the fan was removed that adit caved. Shortly after operations ceased one of the two adits on the south side caved. That left the oldest adit on the East side of the hill, which had a car squashed into its portal, and the South adit most used for the recent mining operations (and closest to the mineral specimens). Within months the adit allowing access to the underground uranium minerals started collapsing. I last got into the mine in April 1991. As far as I know I am the only person who ever collected minerals inside the mine. Boltwoodite was the only mineral readily found on the surface.

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By late 1991 the remaining South adit caved, leaving just the East adit. Collecting underground now would involve squeezing past the car wedged into the East adit and navigating your way underground through the mine towards the collapsed South portals and the secondary minerals. I tried it twice. I had acquired a mine map, but unfortunately there was so much caving that I could not get up the nerve to traverse all of the rock falls to get to the South adit area. The mine was also now without any ventilation and radon levels were on the rise.

Some minerals were collected inside the East adit. They were boltwoodite, ferroselite (iron selenide), selenium and marcasite. Ferroselite and selenium were also identified amongst the uranium minerals. This potential new mineral was eventually researched and published in 1991 as a new mineral species. Chemically it is $(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_2 \cdot 5\text{H}_2\text{O}$ and it was named haynesite for its discoverer.



Haynesite, Repete Mine
Blanding San Juan Co. UT

August to November of 1991 was an incredible time. I had discovered new minerals at other locations and they were getting published as well. Within 4 months the following were published: maxwellite and squawcreekite (later discredited as stannian

tripuhyite) from New Mexico (Foord, E. E., Hlava, P. F., Fitzpatrick, J. J., Erd, R. C. & Hinton, R. W. (1991): Maxwellite and squawcreekite, two new minerals from the Black Range tin district, Catron county, New Mexico. *Neues Jahrbuch für Mineralogie*, 8, 363-384), metamunirite from Colorado (Evans, H. T. Jr. (1991): Metamunirite, a new anhydrous sodium metavanadate from San Miguel county, Colorado. *Mineralogical Magazine*; 55, 509-513) and haynesite (Deliens, M & Piret, P. (1991): La haynesite, sélénite hydraté d'uranyle, nouvelle espèce minérale de la mine Repete, comté de San Juan, Utah. *Canadian Mineralogist*, 29, 561-564).

Around the year 2001 another new mineral, larisaite, was identified by some mineralogists amongst Repete Mine specimens that I had collected. It is visually identical to haynesite. This prompted me to get several haynesite specimens with subtle differences tested. None of them turned out to be larisaite. To my knowledge I have never seen a larisaite. I have looked at two specimens available for sale and I cannot distinguish them from haynesite. So I collected a new species, larisaite, but never recognized it. You cannot win them all.

Technique to Remove Iron Stains from Fluorescent Minerals

by Sam Linton

I made up a solution little while ago for removing iron stains from my fluorescent mineral specimens from the Sterling Hill Mine. I wanted to give you some details, so you know what you can do or not to make your own collection look like Mine Run material.

I call the solution 50/50. It is half hydrogen peroxide and half white vinegar. Both are inexpensive, easy to obtain, and aren't highly toxic, which makes it attractive all around. I use a plastic container that is big enough to hold most specimens (with a lid so I can seal it and save the liquid for later use... mark it well and keep out of children's reach). Have another container of soapy, warm water to use for neutralizing the acids. Place the specimen in the mixture for about 10-15 seconds and see if the iron is gone (you should see tiny bubbles if it is working). Repeat a few times or leave it in the acid for a little longer until the iron is gone (it may not all disappear, but most should dissolve if it is going to work). When you are done with the acid, put the specimen in the water mix and just leave it in there for a minute or two. Air dry or rub it with a towel. That should neutralize the acids so that it does not continue to eat away at the piece.

I am not a chemist and don't pretend to know why or how it works. I know that it works on most of my specimens (not just Sterling Hill), but not all. Many people have been making really good specimens from specimens previously considered worthless. To my knowledge, it doesn't affect the fluorescence; it just takes the coating/staining away, exposing the fluorescent minerals underneath, so that they can shine how they were meant to. Try it on specimens that you don't care much about first, so you know how it will go overall. I am pretty sure it won't destroy specimens, but I don't accept responsibility for any damage to specimens. Just as an FYI, I have tried it on the really dirty, rusty stained rock that has large crystals of Jeffersonite, Magnetite, and Augite on them (from the Pit at Sterling) and it took away most of the staining. However, some crystals go back to having a very slight rusty tone but most have a "dull lead" appearance. It's cool to see the crystals without the stain though they are not flashy.

Overall, it has drastically improved my fluorescent mineral collection and it might do the same for you. Feel free to contact me if you have questions, concerns, or tips of your own.

From *Centrill Gems* 9/11
Via *The RockCollector* October, 2011

"Minerals of Arizona" • The Tucson Show

by Peter Megaw, Special & Guest Exhibits Chair

Our upcoming 2012 [Tucson Gem and Mineral] Show will be celebrating Arizona's Statehood Centennial. This should be a rare treat with contributions from all over the world ... and here at home.



For the mining/history buffs amongst us, the Arizona Historical Society is bringing a number of early Arizona artifacts including Geronimo's rifle (and binoculars!), Wyatt Earp's six shooter, and a host of Tucson-related items ... Yes, Sam Hughes also carried a gun, and they've got General Fremont's sword as well as mining, suffrage and temperance movement items from the early 20th Century. This is a home town museum with wonderful things many of us are unforgivably unfamiliar with, so head down and see if there's something you'd like them to share with the rest of the world.

On the mineralogical side, we've got a state-led Arizona Mineral Treasures effort harkening back to the incredibly successful American Mineral Treasures exhibits of at our 2008 TGMS Show. This will feature more than 50 cases of "best ofs" from Arizona's best azurite, malachite, quartz, aquamarine ... and the world's favorite mineral species ... wulfenite. Arizona has some of the best wulfenite around, so look for cases of stunning Hilltops, Gloves, Rowleys, Hulls, Melissas, Total Wrecks, 49s, Silver Bills, Defiances, Tigers, Old Yumas ... and the searing Red Clouds!

Speaking of premier localities ... we are working on a full row (both sides) of 40+ cases devoted to the Queen of the Copper Camps ... Bisbee. We're calling it "Brewery Gulch" and it will feature minerals, cut stones, photographs, and artifacts of all kinds from Bisbee. Did you know that 277 mineral species have been identified at Bisbee, and it is the type locality for five; chalcoalumite, graemeite, henryite, paramelaconite, shattuckite. Graemeite was named for noted TGMS member Dick Graeme. [See: <http://www.mindat.org/loc-3296.html>]. Curiously, one of the world's best sites of Bisbee minerals is in Edinburgh, Scotland...and a good selection is coming from the National Museum of Scotland. We hope it will be accompanied by the effervescent Brian Jackson! Interesting to know that the much less important Tombstone District (rich, but short-lived production) has eight type species, thanks to a high tellurium content which did interesting and colorful things during oxidation.

We are also hoping that the mysterious (but not nec-

essarily secretive) TGMS Field Collecting Brigade will band together again to put in a case of specimens found on TGMS Society field trips over the years. There are doubtless many others of you out there with treasures yearning to be shared, and I might even have a piece or two to contribute. So, R,A,B,C,J,W,D,A,M, etc. ... you know who you are, get busy selecting a frontsmen/woman, and let's show Arizona what can still be found ... or cut/faceted/polished/fashioned! For the lone-wolves out there among you, we love to get cases from TGMS members ... competitive or not, our Competitive Chair, Les, needs the help, so go competitive if you can. We will do what we can to fit you in.

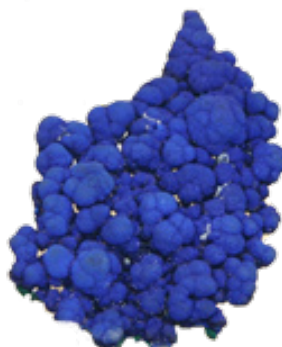
Whatever you do, don't miss this opportunity to be part of the world's best mineral show during her state's special Centennial year. The exhibits will be wonderful, camaraderie will be high (as always), and the chances to see minerals, people and the process up close and personal will be waiting! For those of you who only have an inkling of what I'm talking about here ... the University of Arizona Mineral Museum (long-sponsored by TGMS) has one of the world's best collections of Arizona Minerals. Few hours there would be well spent in anticipation of the upcoming Show. You never know, you might surprise yourself by becoming an expert at telling a Rowley from a Red Cloud, or a Morenci from a Bisbee from an Ajo ... a skill that will serve you well long after the Show is over.



Wulfenite
Glove Mine
Santa Rita Mtns.
, Santa Cruz Co. AZ



Wulfenite
Red Cloud Mine
Trigo Mtns., La Paz County, AZ



Azurite
Copper Queen Mine
Bisbee, Cochise Co., AZ

It's quiz time! What familiar mineral may compose 60 percent of the earth's crust and forms in igneous, metamorphic and sedimentary environments?

Give up? Actually, this is a trick question since it is not a single mineral that meets these criteria but is a group or family of minerals – the feldspars.

The name originates from the German words “feld” meaning field and “spar,” a mining term referring to any non-metallic, cleavable, transparent mineral (calc-spar, fluorspar, etc.). The feldspar group consists of 25 or more minerals which display similar chemical compositions and generally crystallize in the triclinic crystal system (the exceptions, orthoclase and sanidine, forming in the monoclinic system). Some of the rarer members, svyatoslavite for example, crystallize in the orthorhombic system. Chemically, the feldspars are aluminum silicates combined with a Group Ia or IIa alkali metal such as sodium, potassium, calcium, strontium, barium, etc. The rare feldspars, buddingtonite and reedmergnerite respectively contain an ammonium ion (NH₄) in lieu of an alkali metal and boron in place of aluminum. Celsian is a barium feldspar.

Ten members of the group are familiar to mineral collectors: the plagioclase feldspars which are albite, oligoclase, andesine, labradorite, bytownite and anorthite and the alkali or potash feldspars: orthoclase, microcline, sanidine and anorthoclase. The potash feldspars, orthoclase and microcline are dimorphous, that is, they have the same chemical composition but form in different crystal systems. They both are potassium aluminum silicates. Microcline forms in deep intrusive rocks, granites, etc., where cooling is slow. Orthoclase crystallizes at moderate depths where cooling is faster. Sanidine, which is considered by some as a high temperature form of orthoclase, forms in quick cooling, extrusive lavas such as rhyolite and trachyte.

It sometimes happens that the two types, potash and plagioclase, form a homogeneous mixture that is half microcline and half albite. Generally but not always, as the mineral solution cools, the two separate by a process called exsolution and the sodium in albite and the potassium in microcline migrates and forms alternating layers of more or less pure albite and microcline. The result is perthite, a visibly laminated feldspar. The plagioclase feldspars form an isomorphous series with albite, a sodium aluminum silicate at one end and anorthite, a calcium

aluminum silicate at the other. The remaining four plagioclases named above contain progressively less sodium and increased calcium to the end member, anorthite that contains no sodium. In pegmatites, albite sometimes assumes a platy habit and is then called cleavelandite.

Sources

One might expect that such commonly occurring minerals as feldspars may occur in large crystals and that is indeed the case. A single microcline crystal in the Devils Hole beryl mine at Keystone, South Dakota, was measured at about 153 feet in length, 113 feet high and 45 feet wide. Its estimated weight is nearly 17,537 tons. A perthite crystal at the Hugo Mine in Keystone measured 35 by 15 by 8 feet and weighed approximately 250 tons and an orthoclase crystal in the Ural Mountains of Russia reportedly was 33 by 33 by 1.3 feet and weighed around 120 tons. A microcline crystal in the Karelia area of Russia weighed more than 2,000 tons. These measurements were taken on the exposed portions of the crystals so proven dimensions may be less or greater.

Feldspar is an important industrial mineral. World production for the year 2010 is estimated to be a little more than 22 million tons, 55 percent of which is mined in Italy, Turkey and China in that order. Other foreign producers are Thailand, Japan, Spain, France, the Czech Republic and Mexico. United States production during 2010 was 628,317 tons valued at about 36 million dollars. The most important feldspar mining district in America is in North Carolina which has “led the pack” since 1917. Together, North Carolina, Virginia and California produced 89 percent of national output. Other feldspar producing states are: Georgia, Idaho, Oklahoma and South Dakota which jointly accounted for 11 percent of America's 2010 feldspar production.

The Spruce Pine Mining District is in Mitchell, Avery and Yancey counties in western North Carolina which is part of the Blue Ridge physiographic province and is the source of much of that state's feldspar which occurs in a granitic rock called alaskite. Alaskite is a deep-seated igneous rock which erosion has brought to the surface. It is composed of 60 percent feldspar (40 percent oligoclase and 20 percent microcline), 25 percent quartz and 15 percent muscovite mica. Alaskite, by definition contains

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few if any dark minerals although a small percentage is to be found in some areas of the exposure. Pegmatites in the area consist of the same proportional contents as the alaskite and were formed from the same magma. The overall geology in western North Carolina is rather complex and resulted from repeated plate tectonic movements over the nearly half-billion years from late Precambrian to the end of the Paleozoic era. The alaskite and pegmatites were emplaced 380 to 390 million years ago during the Devonian period and are among the youngest igneous rocks in that part of the Blue Ridge.

Feldspar originally was separated from pegmatites or alaskite by hand cobbing. The rock was extracted and broken up by regular mining methods; then the feldspar and other minerals were separated and segregated by hand. That time-consuming and labor intensive method continued until 1946 when a froth flotation process was developed and put into commercial use. "Giant" crystals such as those found in the Black Hills pegmatites and previously mentioned were mined and crushed, requiring little additional treatment. Such massive deposits are limited resources so larger less pure deposits such as alaskite formations with their large proportions of feldspar must be used.

Commercial volumes of feldspar in Hancock County, Virginia are extracted from aplite, a fine grained granitic rock of which plagioclase feldspar (anorthosite) is the major component, comprising 85 to 90 percent of the rock. A coarse-grained phase, the Montpelier metanorthosite was intruded into the aplite during Precambrian time. It contains plagioclase crystals ranging from 10 to 14 inches in length.

The present-day feldspar resources of California, Idaho and Oklahoma are surprisingly in the form of sand eroded from granitic rocks. Some sandstone and stream delta sand deposits in California contain quartz and feldspar which ranges from 10 to 35 percent of the total volume. In Idaho, production is from a lacustrine (lake deposited) sand that contains an estimated 30 percent feldspar. Feldspar comprises 25 percent of Arkansas River sand being mined in Oklahoma. Georgia's feldspar production is from two granite intrusions: the Siloam granite in Greene County and the Shadydale granite in Jasper County. The Siloam is composed of 75 percent feldspar in the form of 47 percent micro-cline, 25 percent plagioclase and three percent perthite. Feldspar from both deposits is blended to create a high-potassium product.

Uses

With present world consumption of 22 million tons per year, we should expect feldspar to have a wide variety of uses. Major end uses are in the glass and ceramics industries. In glass manufacturing, feldspar acts as a flux to lower the melting point of silica, thus reducing the amount of energy required to achieve a molten condition. It provides resistance to chemicals and the alumina content of the feldspar increases the hardness of glass. The greatest use is in container glass (jars, bottles, etc.) but feldspar also is used in manufacture of flat glass (plate glass, window panes, automobile glass, etc.).

The ceramics industry is another important consumer of feldspar minerals. Ceramic products such as tiles, porcelain and chinaware ranging from dishes to commodes and sinks have feldspar mixed with the clay from which they are made. The feldspar lowers melting temperatures and acts as a cement in the crystalline phase of other ingredients. Much of the clay itself is a weathering product of the feldspar component of granite. Ceramic glazes are principally albite feldspar that fuses to a glass-like finish on ceramic items. Other important uses are as fillers in paper, textiles, plastics and rubber. The coating on welding rods is made with feldspar which also forms a part of urethane and latex foam. Feldspar is used as a bonding agent in manufacturing grindstones. A surprising use is for poultry grit. Labradorite and anorthosite, an igneous rock composed almost totally of plagioclase are slabbed, polished and used for decorative building stones.

Both potash and plagioclase feldspars find use as gemstones. Moonstone, known for its bluish adularescence is a mixture of albite with oligoclase or orthoclase. The adularia moonstone is a variety of orthoclase. It may be transparent and colorless. High quality New Mexico moonstone may have a tan to light brown if colored. The best moonstone is said be from India and Sri Lanka. Amazonite is a green microcline popular for gems and carving. The blue to green color may be due to trace amounts of lead plus water. However, there is some evidence that traces of rare earth metals may have a role in the color. Sodium impurities in microcline may separate by exsolution into layers of albite, the thin white banding frequently visible in amazonite. In the U.S., excellent amazonite occurs in pegmatites in the Pikes Peak area of Colorado and at Amelia County, Virginia.

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At present, the most desirable feldspar is the faceting grade sunstone from Oregon. It is an orange to red labradorite colored by nano-size inclusions of metallic copper. The best faceted sunstones presently retail at \$100.00 to \$500.00 per carat depending on color and size. Labradorite from this area also occurs in colorless to yellow and green transparent crystals. It should be noted that labradorite and andesine from Mongolia reportedly are being artificially infused with copper to produce a red, green or bi-colored gemstone which is being introduced as sunstone to unwary buyers.

Andesine, bytownite, orthoclase, oligoclase (orthoclase and oligoclase also form varieties of sunstone), anorthoclase and albite may occur in transparent, colorless to tinted crystals from which attractive gems may be faceted.

The “mixability” of the feldspars leads to exsolution and subsequent forming of thin laminations (lamellae) within a common crystal. The lamellae vary in refractive index between the very thin layers of feldspar types, a condition leading to a play of colors in some specimens and the labradorescence in labradorite. The best of this labradorite is marketed as “spectrolite.”

Suggested reading

- Bateman, Alan M., 1950. *Economic Mineral Deposits*: New York, John Wiley & Sons, p. 706 –708.
- Kraus, E. H., Hunt, W. F., & Ramsdell, L. S., 1959. *Mineralogy – An Introduction to the Study of Minerals and Crystals*: New York, McGraw-Hill Book Co., p. 405 – 413.
- Merschat, Carl E., 1997. *Geology of Yancey County*: Raleigh, North Carolina Geological Survey, Geologic Note No.5, 22p. (www.geology.enr.state.nc.us/yancey.../Geology_of_Yancey_County.doc).
- O’Donoghue, Michael., 1988. *Gemstones*: Cambridge, Eng., University Press, 372p.
- Potter, Michael J., 2006. *Feldspars in Kogel, J.E., Trivedi, N.C., Barker, J.M. & Krukowski, S.T., eds. Industrial Minerals and Rocks: Commodities, Markets and Uses*: Littleton, Colorado, Society of Mining, Metallurgy and Exploration, p. 451 – 461.
- http://www.minerals_n_more.com contains a list of feldspar minerals.

If you look at mineral photos on Mindat.org and other web sites or in modern mineral books, you may see pairs of seemingly identical photos reproduced side by side. Those are 3D pairs, and viewed properly they will allow you to see the specimen in three dimensions. But how can you view them without special equipment? It’s actually easy with a little practice, but you need to know that there are two kinds of stereo pairs.

Traditional stereo pairs are reproduced like the old stereopticon cards. They are divergent pairs in that you must make your eyes diverge to view them. You need to relax your eyes and allow them to diverge slightly so that the right eye sees the right photo and the left eye sees the left photo. As you do this, the two photos appear to separate and a new photo seems to appear between them. The new photo is really the superimposed images of the two photos, and as you merge the two photos into one, you will see the image in three dimensions.

If you have trouble with this, try holding a card against your nose so that your right eye can’t see the left photo and your left eye can’t see the right photo.



Divergent 3D image of Smithsonite 10 cm -- Mike Seeds

Merging divergent images is easier if the images are small. Then your eyes don’t have to spread so far apart. Try the stereo pair shown here. Of course, the smaller the photos, the less detail you can see. If you practice merging stereo pairs, you might eventually be able to hold an antique stereopticon card at arm’s length and merge the images. Images any larger are very hard to merge without a viewer.

A second kind of stereo pair is the cross eyed 3D pair or convergent pair. At a glance, it looks the same as a divergent pair, but to see three dimensions, you must cross your eyes slightly. Then your right eye looks at the left image and your left eye looks at the right image. Many of the

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stereo pairs among Mindat photos are cross eyed pairs.

To view a cross eyed stereo pair, place your fingertip on the line dividing the two photos. Focus your eyes on your finger tip and gradually move your finger toward the bridge of your nose. Keep your eyes focused on your fingertip. As you do that, the two photos will separate and a third image will appear between them right behind your finger tip. The new photo is, of course, the merged images of the two photos. Once the two images are fully merged, you can transfer your attention from your fingertip to the merged photo. It should snap into focus and you can remove your fingertip. Then you can inspect the merged photo and see it in three dimensions.

If you merge a stereo pair but the image doesn't look right, it may be the other kind. A divergent pair viewed as a cross eyed pair will look like a paper cutout with some parts of the image recessed inside the larger image. The same is true of a cross eyed image viewed as a divergent image.

Want to try some more images? Look at www.Mineralmarket.com/Utahmin/stereo.htm That web site contains both divergent and cross eyed stereo pairs of nice mineral specimens. Be sure to click on the links to more photos at the bottom left of the main page. For info on how to take and reproduce stereo images see www.neilcreek.com/2008/03/21/how-to-take-3d-photos/ It only takes a little practice to merge stereo pairs. Give it a try.

The Chesapeake Gem & Mineral Society
Auction
 Friday, March 9, 2012
 7:30 pm (viewing at 7:00 pm)
 Woman's Club of Catonsville

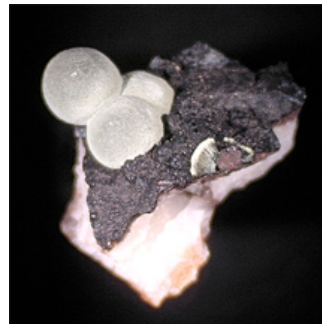
Gemstones, cutting rough, jewelry, minerals, fossils,
 books, magazines, and lapidary equipment.

Refreshments are available.

Directions: Go West on Fredrick Rd. from I-695 approx. 3
 blocks to St. Timothy's Lane. (Wells Fargo Bank)
 Turn right & go 1 block to the Woman's Club; located
 behind St. Timothy's Church.

The current shoebox on the end of my bench contained material from the Desatels Symposium last October and is nearly empty, so I had to dig deep to pull out some minerals to work on. Three baggies came out each containing a different mineral specimen. Under the microscope, they turned out to be related – all three are spherical.

One of the specimens is kidwellite on rockbridgeite from Polk County, Arkansas. A lot of kidwellite specimens consist of botryoidal masses of small spheres. ("Botryoidal" comes from the Greek word Botris, a bunch of grapes.) This kidwellite specimen contains only three spheres nicely displayed on the



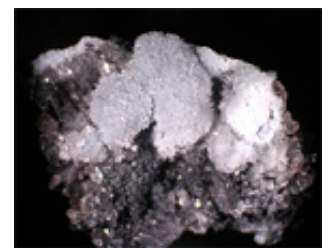
Kidwellite, Polk Co., Arkansas,
Field of view 10 mm.

dark rockbridgeite. At lower right, one sphere has been broken away to reveal part of a circle of acicular crystals showing how the radial structure of the kidwellite spheres develops from a single growth center. Such broken kidwellite spheres can be quite attractive even though they represent a damaged specimen.

Polk County, Arkansas contains at least four different locations for kidwellite, but the label on this specimen didn't go further than Polk County, so there is no way to narrow the location further. Of the 51 photos of Polk County kidwellite on Mindat.org, 10 come from the Three Oaks Gap Workings and 2 from Buckeye Mountain. The rest come from the Coon Creek Mine, so that would be a statistically valid guess, but guesses don't go on labels. I bought the kidwellite at the symposium for \$2. It came from the collection of Harvey Cantor, and he was content to know it came from Polk County, so that's good enough.

The second specimen was Celestine from Santa Eulalia,

Chihuahua, Mexico. The specimen was a gift from Lou Alonzo. He stopped by my microscope with a cigar box of specimens and said, "Here, take any you want." There were some neat things in there, and I picked out a few specimens, not only because they are beautiful, but because Lou gave them to me.



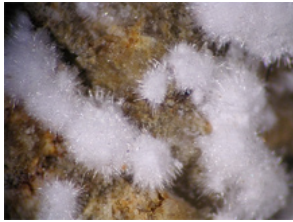
Celestine with calcite from
Santa Eulalia.
Field of view 12 mm.

A micromount can be more than a mineral specimen; it can be a keepsake from a friend.

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Celestine generally forms pale blue crystals, and not spheres, but these micro crystals have formed in tiny balls. A broken ball on the specimen suggests Celestine may have formed over some other mineral. Nevertheless, under high magnification, the crystals are clearly the shape we associate with Celestine.

Microsoft WORD insists on capitalizing Celestine perhaps because there have been five Popes named Celestine, there is the Celestine Prophecy, the Celestine branch of the Benedictine Order of monks, and Celestine, Indiana. In any case, many mineral specimens are labeled celestite, but Celestine is the preferred name.



Gowerite
Death Valley, CA
Field of view 6 mm.

The third mineral out of the box was gowerite from the Hard Scramble claim in Death Valley, California. Again, this is a two-dollar specimen from Harvey Cantor's collection,

and although it was a wonderful bargain, it is nevertheless a beautiful specimen from a friend, another keepsake.

Gowerite is $\text{Ca}[\text{B}_5\text{O}_8(\text{OH})][\text{B}(\text{OH})_3]\cdot 3\text{H}_2\text{O}$ and is described on Mindat.org as an "extreme rarity." It consists for fine white acicular crystals radiating in small spheres on a delicate matrix. Harvey's specimen was still in the box in which he acquired it, and it needed trimming and cleaning. Although it was partly damaged, there were nice spheres in some shallow vugs, and I got three mounts from it. I kept one, donated one to the auction at the Atlantic Micromount Conference and put the other in my trade box. That's lots of fun for only two dollars.

Spherical minerals are especially attractive. We naturally expect that minerals form crystals with flat faces and straight edges. Finding a mineral – hardly more than a rock – that is in the shape of a sphere seems almost magical. Yet under magnification you will find that there are lots of spherical minerals.

Baltimore Mineral Society Membership Renewal

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

E-mail: _____

Names of family members included in membership:

Mail or give to: Carolyn Weinberger
PO Box 302
Glyndon, MD 21071-0302

Renewal deadline is the **February** meeting.
Annual dues for Individual memberships are \$10.00.
Annual dues for family memberships shall be \$15.00 for husband and wife and all children

Heart Attack Info on New Aspirin

via The RockCollector, January, 2012

Something We Can Do to Help Ourselves

About Heart Attacks

Bayer is making crystal aspirin to dissolve under the tongue. They work much faster than the tablets.

Why keep aspirin by your bedside? There are other symptoms of a heart attack besides pain in the left arm. One must also be aware of an **intense pain on the chin**, as well as **nausea** and lots of **sweating**, however these symptoms may also occur less frequently. **Note: There may be NO pain in the chest during a heart attack.**



The majority of people (about 60%) who had a heart attack during their sleep did not wake up. However, if it occurs, the chest pain may wake you up from a deep sleep. If you are awakened with pain, immediately dissolve two aspirins in your mouth and swallow them with a bit of water.

Afterwards: CALL 911

- say "heart attack!"
- say that you have taken 2 aspirins
- phone a neighbor or a family member who lives very close by
- take a seat on a chair or sofa near the front door, and wait for their arrival and... ***DO NOT lie down.***

A cardiologist has stated that if each person after reading this message passes it along to 10 people, probably one life can be saved!

Editor's Note (from Dan Imel): Women are more prone than men to have no symptoms of a heart attack or to display pain in their back or shoulder rather than the traditional concept of chest pain. I had a number of female patients while I worked on the cardiology floor who described intense back or shoulder pain with no other symptoms. While women have fewer heart attacks than men, they have a higher percentage that are fatal. This is partially due to the pain being in areas not normally associated with heart attacks by most people and women ignoring the pain as a result.

The AFMS Code of Ethics



🍏 I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.

🍏 I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.

🍏 I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

🍏 I will use no firearms or blasting material in collecting areas.

🍏 I will cause no willful damage to property of any kind - fences, signs, buildings.

🍏 I will leave all gates as found.

🍏 I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

🍏 I will discard no burning material - matches, cigarettes, etc.

🍏 I will fill all excavation holes which may be dangerous to livestock.

🍏 I will not contaminate wells, creeks or other water supply.

🍏 I will cause no willful damage to collecting material and will take home only what I can reasonably use.

🍏 I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.

🍏 I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and Will leave all collecting areas devoid of litter, regardless of how found.

🍏 I will cooperate with field trip leaders and those in designated authority in all collecting areas.

🍏 I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

🍏 I will appreciate and protect our heritage of natural resources.

🍏 I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

The Conglomerate

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



Upcoming Events

For a more complete list of shows, visit the EFMLS Website
<www/amfed.org/efmls>.

January:

25: BMS meeting - Swap & Sell. Contact Jake Slagle to reserve a space if you plan on swapping or selling.

February:

1 - 12: Tucson!!!!

18: 22nd Annual Mineral, Jewelry & Fossil Show sponsored by the So. Maryland Rock & Mineral Club. Show Place Arena, 14900 Pennsylvania Ave; Upper Marlboro, MD.

22: BMS meeting. Cockeysville Fire Hall, 7:30 pm.

March:

9: Chesapeake Gem & Mineral Society Auction. Woman's Club of Catonsville, St. Timothy's Lane & Frederick Rd. 7:30 pm.

17-18: 48th Annual Gem, Mineral & Fossil Show sponsored by the Gem, Lapidary & Mineral Society of Montgomery Co., MD. Montgomery Co. Fairgrounds, Gaithersburg, MD.

28: BMS meeting. Cockeysville Fire Hall, 7:30 pm

May:

19: 23rd Annual Chesapeake Gem & Mineral Show at Ruhl Armory. 10 am - 4 pm.