

Southern Maryland Rock and Mineral Club



Rock Talk



March, 2017

Message from the Acting President

Welcome to the 2017 collecting season. March has been a busy month with our GLMSMC annual show on the weekend of March 18th & 19th at the Gaithersburg Fairgrounds and the annual Atlantic Micromounters Conference on March 31 & April 1st at the Springhill Suites (Marriott) 6055 Richmond Highway, Alexandria, VA.... so I have not scheduled any collecting trips during March 2017.

But I am here announcing April Field trips to primo sites in PA, MD, and NJ:

New Enterprise Stone & Lime Gettysburg Quarry (formerly known as Teeter's Gettysburg Quarry) 1575 Baltimore Pike, Gettysburg, PA -- Tuesday, April 18th from 0700-1100. All participants must bring with them the attached three forms, signed & dated: 1. Site-Specific Hazard Recognition Training; 2. Waiver and Release for Adult/Minor Visitors (All minors must be accompanied by the legal parent/guardian who fills out the minor forms), 3. GLMSMC Assumption of Risks, Waiver, & Indemnification Agreement. Standard rules and full personal safety gear as specified in the attached rules. RSVP to me (Dave Fryauff) by April 16th.

Medford Quarry, 1111 Medford Rd, New Windsor, MD - Friday, 21 Apr from 0800-1200. Be on time or don't bother showing. Park in between

the main building and the main pit, facing south. Consolidate into as few cars as possible because there is not much room to park. I will sign us all in and then we will get the brief. Since we will only be getting in once each year, there will be no maximum group size. I don't want personal RSVP's, so please consolidate your group's participants and let me (Sam Linton) know the headcount by COB 19 Apr. We will collect in the derelict pit again (stay away from my hole! :)), but all standard rules apply.

Sterling Hill NJ Garage Sale & Super Dig/Franklin NJ Mineral Show - Saturday & Sunday, April 29-30th 0800-1700. Do not RSVP to me but you must register online to take advantage of the special Super Digg event. The annual Super Digg in the famous Franklin/Sterling Hill New Jersey zinc district featured in Chris' enlightening presentation is Saturday April 29th. This year the organizers have made a new untouched site "The Mill Dump" open for premium digging for a fee of \$50 + \$3/pound of material taken. There is a 225 person limit on the number of diggers for this special material and slots are filling fast. If you want to look at some different material from what is more commonly found at the Buckwheat dump and the Sterling Hill Mine, sign up for this one.

Dave Lines

**Next Meeting:
March 22, 2016@7:00 PM**

**Program:
Mining Amazonite and Smoky Quartz in
Colorado**

**Refreshments:
Tim and Lorna Smith**

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FEBRUARY MINUTES

Submitted by Dave Lines

DATE: Meeting called to order at 7:21 p.m. by Dave Lines, Acting President

VISITORS/NEW MEMBERS: None

MEMBERSHIP: Sixteen members present tonight. Polly is on vacation to India with Carole and Al.

MINUTES: January minutes were approved.

TREASURER: Dave reported no change.

PROGRAMS: Dave Lines filling in for Carole who is on vacation in India --- Tonight: DVD "The Gemstone Journey". March meeting program: "Smoky Hawk Mine, Crystal Peak, Colorado, by Joe Dorris" (first speaker at 2016 Dallas Symposium). Snacks tonight provided by Tim and Lorna Smith.

NEWSLETTERS: Tim Foard – newsletter was out a full week ahead of tonight's meeting. (Well done Tim!)

WEBMASTER: Bob reported that everything is up to date. Members commended Bob for how good the website looks. He reported that it is receiving about 900-1000 hits a week.

FIELD TRIPS: Dave Lines, Field Trip Vice President. Recent past trips --- 2-18-17 to C&D Canal for belemnites with side trip to Odessa to collect petrified wood (3 members participated). Upcoming trips ---- 3 in March and 2 in April: 3-11-17 --- Purse State Park --- fossils – (joint trip with Delaware Mineral Society); 3-18-17 ---- Odessa DE --- petrified wood with side trip to C&D Canal spoils piles for belemnites (joint trip with Calvert Marine Museum --- several other clubs invited.); 3-25-17 --- Chestnut Ridge, Bath County, VA --- quartz crystals; 4-15-17 --- Phoenixville, PA ---- pyromorphite (joint trip with Delaware Mineral Society); 4-29-17 ---- Franklin NJ ---"Super Dig" – fluorescent minerals – (on you own trip) and Sterling Hill at Ogdenburg, NJ (Need membership cards to go on this trip). Question: Did Michael Patterson order them yet?)

OLD BUSINESS: Rock Swap --- Dave Lines, Swap Chairman --- June 17 from 9 – 5 at Gilbert Run Park in Charles County, MD Largest pavilion reserved --- Dave paid \$300.00 of his own for pavilion rental fee and sent them another \$50.00 check for the deposit fee. Plenty of room in parking lot for 100 swappers – each can have 10' x 10'

behind their vehicle to set up 3 tables and 10' x 10' tent. Pavilion has 37 large aluminum picnic tables --- 2 electric outlets for micro phone for auction. Extras include horse shoe pits, cornhole blocks, volley ball court on sand with net, playground with swings for kids. 200 Swap Fliers copied and mailed to Delaware Mineral Society for distribution at their show on March 4 - 5 (at Dave's expense). Nature Center to make 200 more swap Fliers – Dave will mail to Montgomery County Club for distribution at their show on March 18-19 (at Dave's expense). (*Late Note – Nature Center rep that night provided 100 swap copies to Dave) Swap Announcements sent to *Rock and Gem* magazine, *Rocks and Minerals* magazine and to the EFMLS Calendar --- swap already shows up on Google. Volunteer list to help at swap -- club members sign-up sheet will be distributed at March Meeting. (**Note – Bob will be unable to be auction recorder due previous engagement) All planning for swap --- must be completed by April Meeting due to Dave will be absent at May meeting (attending Wildacres). Morefield Mine update (by Dave)--- new website – not open this Spring or Summer – hopefully will be open this Fall. Martin Marietta has exercised its lease option (lease signed 25 years ago with Bill Baltzley) to open pit mine the 65 acre property behind the Morefield mine. Sam and Sharon Dunaway own the 65 acre parcel, but the lease takes precedence. All trees have been cleared from the property and Martin Marietta is removing 60 feet of overburden to reach the rock they will mine (gneiss) to produce crushed rock. Sam is working to open the 100 foot level of the Morefield mine.

NEW BUSINESS: Delaware Mineral Society rock show this coming weekend (March 4-5) will include a full day Symposium with guest speakers each hour – this is a new activity for them. See their website for details. Primitive Technology weekend on May 6-7 – see flyer on front table. Door prizes tonight (provided by Dave) --- pick a number and flip

to see if low or high numbers go first. Each person will have 15 seconds to decide which item they want. Estate Sale this weekend at Bel Alton MD includes Indian artifacts and sharks teeth (see “estate escapes” website). Future Presentations – Gary is willing to do “fill in” programs. A Possible TBD future “Rock Sale/show” in parking lot at Gary's Store location later this year. Kyle Lowe (Michael Patterson's boss) has been promoted. Michael will have a new boss. There is a new “no smoking” rule at Clearwater Nature Center for everywhere on the property – including outdoors.

ADJOURNED: Meeting was adjourned at 8:03 pm.

Upcoming Shows and Events: 2017

May 13—Annual Earth Science Show & Sale sponsored by the Rock & Mineral Club of Lower Bucks Co. PA. Christ United Methodist Church, 501 Wistar Rd; Fairless Hills, PA.

May 13—28th Annual Chesapeake Gem & Mineral Show hosted by the Chesapeake Gem & Mineral Society. Ruhl Armory, I-695 at exit 26 south, Towson, MD.

May 13-14—Annual “Fossil Fest” sponsored by the Finger Lakes Gem, Mineral & Fossil Show. Greater Canandaigua Civic Center, 250 No. Bloomfield Rd; Canandaigua, NY.

May 20-21—49th Annual “World of Gems and Minerals” Rock, Mineral, Fossil and Jewelry Show sponsored by the Berks Mineralogical Society. Leesport Farmers Market, Leesport, PA.

Rocks, Minerals, and Fossils in the News

BETHESDA BOY ROCKS STATE MINERAL HEARING

<http://www.mymcmedia.org/bethesda-boy-rocks-state-mineral-hearing/>



David Shore panning for minerals using a buddle. | Courtesy photo

A 10-year-old Bethesda boy with a passion for geology has a lobbyist and two Montgomery County lawmakers in his corner for making chromite the state mineral. David Shore testified Tuesday before the Senate Education, Health and Environmental Affairs Committee in Annapolis in support of the legislation. “It truly represents Maryland heritage and state history, and I think Maryland’s state mineral should be chromite,” David said.

Chromite, or iron chromium oxide, is used in tanning leathers, and in making stainless steel and chrome plating. It’s used to make chrome yellow paints and dyes, which are used on school buses and the yellow stripes on highways. It helps alloys resist high temperatures, and manufacturers employ chromite in jet engines, ovens and other appliances. It’s so important, David said, the United States maintains a chromite stockpile.

It was first discovered in the country in Baltimore County and from 1820 to 1850, Maryland produced most of the world’s chromite. It is found in six Maryland counties, including Montgomery. Maryland has more than 20 state symbols, including a state boat (the skipjack), a state dessert (Smith Island Cake), a state dinosaur (*Astrodon johnstoni*), a state dog (Chesapeake Bay Retriever), a state drink (milk) and a state exercise (walking), but no state mineral. Twenty-six other states have established state minerals, but no other claims chrome, he said. He completed his testimony by wishing the committee members a “chrome-tastic day.”

David, a fourth-grader at the TLCI School, said, “I’m pretty sure I want to be a geologist when I grow up.” The Senate measure is sponsored by Sen. Craig Zucker, a Brookeville Democrat. Del. Bill Frick, a Bethesda Democrat, is sponsoring the measure in the House. Frick met David a few years ago when the boy was testifying against a measure that would make the sale of fossilized teeth a felony. Frick, he said, has been “chrome-tastic” since then, and introduced him to Ashlie T. Bagwell, of the lobbying firm Harris Jones and Malone. The fossilized tooth bill, by the way, was “tabled,” he said—a sign that even as a 7-year-old, he had some Annapolis cred. “He knows a lot about chromite,” Bagwell said. “We met for an hour and a half and he told me all about it.” Bagwell helped him be prepared for Tuesday’s hearing. Frick is sponsoring the House bill, which will hold a hearing March 15.

At the Senate hearing, state geologist Richard Oort said chromite was an important part of the country’s post-colonial industrialization. “Without chromite, the development of steel would not be as advanced as it is today,” he said.

In a telephone interview, David said he was at a Future Rockhounds of America meeting, where the speaker discussed state symbols, and that Maryland hasn't chosen a state mineral. His home is on top of a closed gold mine, which he thought might be a good choice, but four other states already have gold as a state mineral, he said.

His second choice was quartz. "It's abundant in our state, but it's abundant throughout the world," he said. He thought chrome was a logical choice because it's more strongly attached to Maryland's history. "It makes a lot of sense when you think about it," he said.

Human Activity On Earth Triggered A New Age Of Minerals

David Bressan,
CONTRIBUTOR

<https://www.forbes.com/sites/davidbressan/2017/03/02/human-activity-on-earth-triggered-a-new-age-of-mineral-formation/#25298973522e>

Today 5,000 to 7,000 minerals are formally recognized on earth and every year some new ones are discovered. Most were hidden in rocks for million years, found only at a few sites or small crystals and just overlooked by mineralogists. A new paper published by mineralogists Robert M. Hazen, Edward S. Grew, Marcus J. Origlieri and Robert T. Downs argues however that human activity in the last 250 years initiated a new age in earth's history, characterized by the formation of previously unknown minerals.



Dissakisite, a mineral described in 2005 from the Italian Eastern Alps. (Photo by David Bressan)

Especially Hazen, research scientist at the Carnegie Institution of Washington's Geophysical Laboratory, is interested in the link between minerals and evolution of life. He published various papers and a book subdividing earth's history in six great ages of minerals formation. At first, only magmatic rocks and minerals existed on the cooling crust of the young earth. When tectonic activity started on the early earth, metamorphic minerals started to form. After oceans formed, sedimentary rocks were deposited

Now minerals form by erosion and chemical weathering of older minerals and rocks. However, most minerals formed some 1.3-to-2.3 billion years ago. At this time the first photosynthetic microorganisms evolved the ability to split water and carbon-dioxide, releasing free oxygen into the sea and atmosphere. Reacting with other elements, oxygen formed over 2,000 new oxides and minerals, adding to the 2,000 previously occurring minerals. The evolution of higher lifeforms and plants and new chemical reactions added further minerals over the next millions of years.



Tiger Iron from the Ord Ranges near Port Hedland in Western Australia's Pilbara region. Such Banded Iron Formations formed when in the sea dissolved iron reacted with free oxygen, a byproduct of the metabolism of the first photosynthetic life-forms on earth. (Photo by David Bressan)

Recent human activity significantly accelerated the rate of minerals formation again; 208 previously non-existent minerals formed in just the last 250 years. Humans can create artificial minerals, like synthetic gemstones, pure silicon or exotic metallic alloys, but humans also influence the formation of minerals outside the laboratory. Most modern minerals form by chemical reactions between the natural world and human infrastructure, like mines, quarries, industrial complexes and landfills. Landfills are especially promising, containing a complex mixture of carbon from plastic, silicon and other metals from electronic waste and acids and chemicals from leaking batteries. Over time, eventually involved in tectonic movements and under metamorphic conditions, landfills will act as sort of furnaces for the creation of new minerals. Also, other human rubbish has the potential to become part of earth's geological record. Plastiglomerate is a new type of rock formed by burning plastic trash along the coasts of Hawaii. The melting plastic incorporates the pebbles of lava-rocks found on the beach, forming a never before in earth's history seen type of conglomerate.

Some minerals are rare in nature but common in man-made materials, like Portlandite, found in concrete. Only gold, silver and copper are found as

native metals in nature, however humans have extracted in the last 2,000 years large quantities of metal from ore, refining it and creating tools out of bronze, iron, tin and aluminum. New minerals form by the chemical corrosion of such old and new artifacts. Chalconatronite is a rare copper mineral forming blue crystals on ancient Egyptian Bronze (an alloy of copper and other metals) artifacts. Abhurite is named after a shipwreck near the site of Sharm Abhur in the Red Sea. This mineral forms on bronze artifacts, when the alloy reacts over centuries with the saltwater of the sea. Some minerals are the results of mining activities. Andersonite for example forms green to yellow crystals on the walls of some mines, when uranium ore is exposed for the first time after millions of years to water during the excavation of the tunnels. Tunnels and mines are also places where minerals can form quicker as in natural caves. A new excavated tunnel tends to drain the underground, percolating groundwater reacts with materials like concrete or the freshly exposed rock surface, forming minerals like Epsomite or crusts of oxides and hydroxides.



Aragonite (a mineral formed from the reaction of calcium with water) forms such aggregates in natural caves, but also in artificial tunnels, like this specimen, discovered in an abandoned medieval mine in the Eastern Alps. (Photo by David Bressan)

Quite exotic minerals can also be the remains of industrial processes. Fordite is a rare mineral, maybe one could even say a type of sedimentary rock, only found in old Detroit auto-painting facilities and formed by the deposition of layers of enamel paint.

Human activity also changes the distribution and occurrence of minerals. Naturally occurring diamonds and other precious gemstones will over time become extremely rare, hoarded by humans in their cities or replaced by synthetic diamonds. Hazen and the authors of the paper are sure, the new man-made minerals will testify our impact on the environment also in a distant geological future.

Cornstarch Replaces Cyanide In Clean New Gold Extraction Method

Scientists accidentally discover a new way to isolate gold that is much safer than existing processes, which use toxic cyanide.

By Rebecca Boyle May 14, 2013

<http://www.popsoci.com/science/article/2013-05/cornstarch-replaces-cyanide-clean-new-gold-extraction-method>



Gold In A Flask Wikimedia Commons

Gold, precious forever but especially lately, is a tricky metal. Bound up in consumer electronics, jewelry and the ores that it comes from, gold is difficult to extract, and most modern processes do it with a highly toxic combination of cyanide salts. The cyanide leaches the gold out, but the cyanide can seep into the ground, causing environmental problems and posing threats to human health.

Researchers at Northwestern University recently stumbled upon a solution that uses cornstarch instead. It involves some complex chemistry, but it's cheap, biologically friendly and nasty-ingredient-free.

Led by Sir Fraser Stoddart, a chemistry professor at Northwestern, the team discovered this method by accident when looking for something else. A postdoc named Zhichang Liu was trying to make three-dimensional cubes out of gold and starch, aiming to use them as storage containers for gases and small molecules. But a liquid mixture of dissolved gold-bromide salts and a starch-derived sugar didn't form cubes, it formed needles. This was strange, so the team decided to try to replicate it and tested different forms of sugars.

Alpha-cyclodextrin, a cyclic starch fragment with six glucose molecules, is the best way to isolate gold, they found. "Zhichang stumbled on a piece of magic for isolating gold from anything in a green way," Stoddart says in a [statement](#). The spontaneous bundle of needles is made of thousands of nanowires, each 1.3 nanometers in diameter, which contain a charged gold atom inside four bromine atoms.

The interaction between the starch fragment and the gold allows the precious metal to be selectively recovered from other materials, including platinum, palladium and others. The researchers already developed a process to isolate gold from scraps, and they hope this will lead to an environmentally friendly, cheap way to recover gold from anything. The research is published in *Nature Communications*.

Petrified Wood from Odessa plus Belemnites from the C&D Canal Spoils Piles

Article and photos by Dave Lines

Four members (Ralph, Mary, Lorna and Dave) of the Southern Maryland Rock and Mineral Club made the 130 mile trip each way to Odessa, Delaware on Saturday March 18th where they joined about 15 folks from other rockhounds from Maryland, Delaware, Pennsylvania and New Jersey.



It was an invitational trip from the Calvert Marine Museum Fossil Club that they hold twice each year in memory of their former “member extraordinaire”, John Wolfe.

All week long, Mother Nature played with the forecast --- snow storms, ice, rain, below freezing temps --- we kept guessing if the snow cover was going to melt off the field in time or if the ground was going to be totally frozen or sloppy and rainy for our trip. As it turned out, the weather was ideal with no snow on the fields and temps in the mid 40’s --- and best of all --- totally cloudy skies. Cloudy skies – why is that so great, you say? Well – because a cloudy sky means very even lighting and no shadows on the ground --- plus no glare from bright sunshine. Perfect for surface collecting of petrified wood in a huge no-till agricultural field amply littered with the debris from a soybean crop harvest as well as leftover cornstalks from the previous year --- plus there were plenty of weeds to further cover the bare ground. All this combined to make it difficult to spot the pieces of petrified wood nestled in the debris. It was

sensory overload for our eyes. So the cloudy skies really helped.

We met initially at a nearby “Park and Ride” and caravanned from there to a farm about 2 miles south of Odessa. After a welcome and short safety brief by the overall trip leader Bob Ertman, we posed for a group picture and at about 10:30 a.m., we were turned loose in a HUGE field was almost a mile across at its widest point. We all spread out and started searching for the petrified wood --- reported to be 1.5 to 2 million years old. Almost immediately, we began finding small pieces nestled in the weeds and soybeans stems. It was just a matter of time until everyone found some. And a few of the specimens were spectacular. I saw several that were over a pound each. Ralph found a nice one and I found a very large one laying on the surface. One young girl found several large chunks.



Of course, there were a couple of unexpected, yet interesting finds --- like Ralph’s little arrowhead

made of yellow jasper. It was very finely chipped and showed excellent workmanship. Ralph did well to spot it among all the stems, stalks and weeds covering the ground. Another neat find was a drone UAV that contained a built-in movie camera. I looked it up online and it was listed at \$799.99 (but there was no “controller” mechanism and that probably cost several hundred dollars to replace). And we don’t know if it even works since it was found upside down in the mud.

At about noon, Lorna and I compared our finds with several others, said our goodbyes to new friends and decided to leave the farm field and drive to the dredge spoil piles adjacent to the C&D (Chesapeake and Delaware) Canal located about 15 - 20 minutes north of Odessa near Delaware City. Lorna had never collected either the petrified wood or the fossil belemnites which are also the Delaware State Fossil, so the extra trip to the C&D was a real treat for her. At the spoil piles, we joined Tom Pankratz of the Delaware Mineral Society.



We dug virtually in the same location as we did during our February 18th visit and had great luck. In about 2 hours, we dug and screened out several hundred pieces of belemnite. The digging was relatively easy since the spoil piles were mostly sand

with some gravel and oyster shells mixed in.



Around 3 p.m., we decided to call it quits and said farewell to Tom and headed south back to Maryland. By the way, Tom also generously gave Lorna a nice large chunk of petrified wood. (*We have had some great trips scheduled during March 2017. If you missed them --- maybe you can catch the next ones. Remember, you can’t find rocks if you stay at home.)

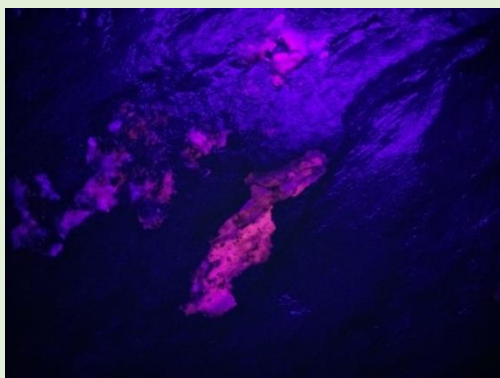
Eastern Standard Hounding

Timothy Foard; photos by Timothy Foard

Every year I look forward to the arrival of Daylight Savings Time. To me the initial loss of an hour of sleep is a small price to pay for the extra hour of daylight I gain at the end of my typical work day. It gives me an opportunity to deviate from my regular commute home by making a slight detour to one of the small streams to look for any fossils exposed by the water action weeks or months earlier. This year, however, was different. Although I still welcomed the start of DST, this time around I also took full advantage of the early darkness. The previous year I made a pilgrimage to Sterling Hill Super Digg and “saw the light”. Months later and armed with a couple of shortwave lamps, I ventured forth into the Eastern Standard night in search for florescent minerals. My intent is to get as much local material to put together an introductory presentation at one of the area nature centers.

First evening: a coastal plain stream site, one I normally visit to look for fossils. The stream cuts through mostly unconsolidated sediments. It rained a couple of days earlier and the water level in the stream was quite high. Little of the shoreline was exposed as a result. There was also considerable light pollution because of the stream's proximity to an apartment complex. Undeterred, I searched for about a half-hour with no success.

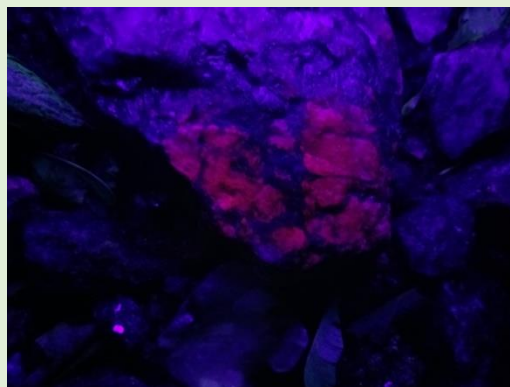
Second evening: same location, days later, when the water level dropped, and exposed more of the shoreline. The stream contained lots of quartz cobbles, but serpentine was also common and a few other rock types were present as well. Quartz normally does not fluoresce, and neither does serpentine, and for a long time I didn't encounter anything of interest. More of the synthetic objects were highly fluorescent—some pieces of glass gave a brilliant white glow. At various locations along the stream boulders of diabase were placed along both sides in an effort to control the direction of flow. Inspection of the boulders revealed the reddish glow given off by impurities in calcite.



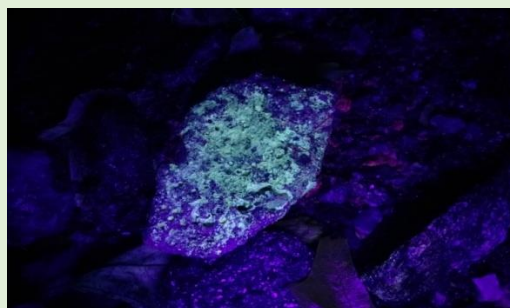
A short time afterwards, one quartz cobble found which gave off a white glow under shortwave light. I spent over an hour traversing the stream before leaving. At this point I decided to focus more on sites in the piedmont, where I think I may have a better chance of finding fluorescent minerals, as most of the rocks present are of igneous or metamorphic origin.



Third evening: Patapsco Valley State Park. Since most state parks are off limits to collecting, I wanted to see whether a piedmont locality will produce more fluorescent minerals, as I suspect, after which to check nearby areas outside the park's boundaries. This park was the closest to work to check out. Chunks of pegmatite were present and the feldspar component gave off a weak, but occasionally, deep red under shortwave.



A single rock specimen not only gave off a greenish white glow, but also showed brief phosphorescence, the shine lasting for 2-3 seconds after the lamp was turned off. I don't know the identity of this rock. A little research needed here.



Some of the gravel in the parking area fluoresce a very intense red, but when examined closely, it turned out that the rocks were sprayed with a fluorescent paint. One of the erosion control rocks placed along the side of the road also gave off a red glow under shortwave. These rocks were marble, but only two of them of hundreds examined glowed, and I was curious as to whether parts of the Cockeysville Marble—which in part makes up the Washington Monument—were fluorescent. I needed to find an outcrop of this material.

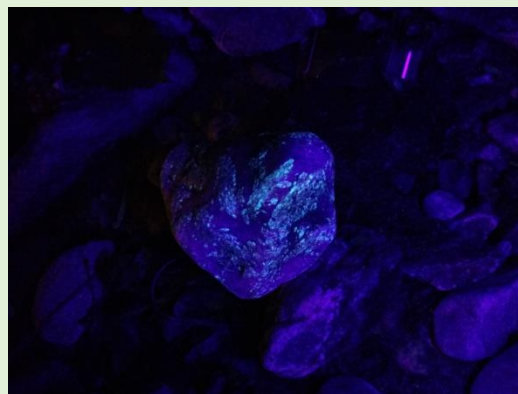


Fourth evening: along railroad tracks outside Patapsco park's boundaries. A "No Trespassing" sign was posted less than a hundred feet from the parking area, so I searched along the tracks, but did not venture past the sign. Small pieces of pegmatite with the fluorescent feldspar were much more common, but also present was a mineral which gave off white light when exposed to shortwave. I suspect tremolite as the culprit. Under magnification in white light the areas physically different from the rest of the rock which gave off the light looked like tremolite. I wanted to investigate the nearby stream, a tributary of the Patapsco, but the water level covered most of the shore.

Fifth evening: Morgan Run Natural Environment Area. This was nearly an hour's drive in the opposite direction from home. There are boulders on the perimeter of the parking area and an outcrop in the forest margin I wanted to investigate. Only one of the boulders displayed a weak fluorescence, I observed

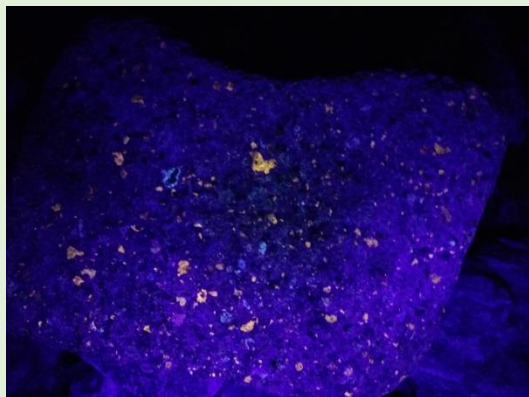
none in the outcrop, except for lichens present on the rocks. A few rocks in the road gravel in the parking area gave off a white glow, but this was largely unproductive.

Sixth evening: Herring Run, City of Baltimore Parks. This site was mentioned in Robert Beard's rockhounding guide for this area, and he noted an abundance of large pieces of Cockeysville Marble. There were also signs warning about the water being polluted. I normally carry a pair of waders in the trunk, so that wasn't an issue. In addition, a shortwave lamp is also a germicidal lamp, but I still exercise caution here. Finding the stream was easy; accessing the shoreline required plowing through briars in the darkness. I resisted the temptation to take a dip in the frigid, polluted waters and instead focused on the rocks. There was also some light pollution from the nearby street lights, so I held the lamp closer to the rocks. There were a lot to examine and require a second visit, which I did a week later (Seventh evening). Some of the fluorescent feldspar were present, and marble were abundant, but none gave off the red fluorescence I saw in the Patapsco. Instead, many gave off a white glow.



Most of this is due to caliche, the deposit of calcium carbonate which sometimes coat rocks present near streams and tend to be the most common type of fluorescence. Some of it, however, seems to result from unidentified (to me) crystals imbedded in the rock itself. Some of the man-made rocks also

displayed some florescence, mostly yellows and whites.

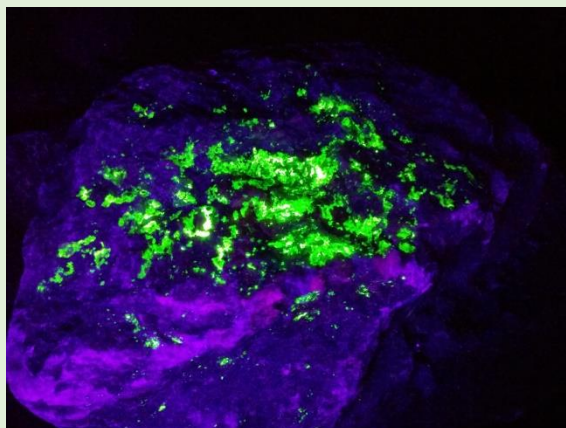


Eighth evening: Dogwood Road at Dogwood Creek. This is another site described in Beard's guide. I visited this site during the day on my lunch break and brought back a few specimens to check for florescence. None of them did, but I retained a rather attractive piece of foliar green serpentine. Beside granitic pegmatites, this part of the stream contains an abundance of gneiss and schists. When I returned later that evening, light interference is present, but not overwhelming as in other areas I explored. Some of the gneiss gave off a red florescence in the lighter flecks of the rock, probably due to feldspar, and some of the pegmatites also displayed the typical red.

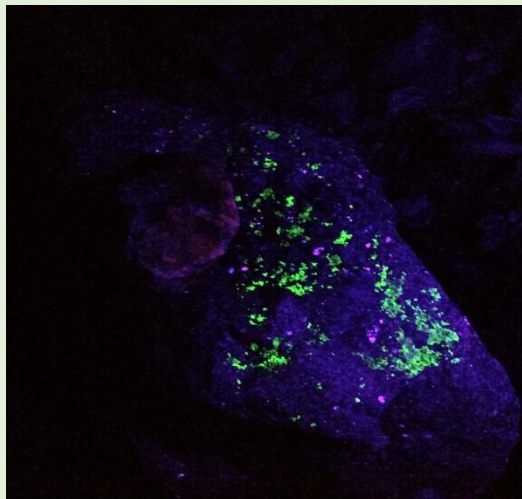


Some of the usual florescent rubble were present, but the real surprise was a brilliant yellow-green glow from one of the rocks from a distance. So brilliant was this green that I suspected the rock may have been sprayed, as one I discovered previously. It was

also a sizable chunk and fortunately the car was close by, so I hauled it back to have it examined more closely under visible light. The specimen is a pegmatite containing mostly quartz and the green glow originated from within the rock and not as a coating. The first mineral to instantly come to mind when I see green florescence is willemite, a silicate of zinc, common at the Sterling Hill Mine hundreds of miles away. The other suspect is the presence of uranium. Willemite is also phosphorescent, and I saw no such effect. An internet search revealed the occurrence of uranium but not willemite in the Patapsco River area. Not conclusive, but perhaps a sensitive radiation detector (which I lack) may help in the identification.



Ninth evening: Paint Branch at Old Columbia Pike. Paint Branch and some of its tributaries in the coastal plain are some of the sites I normally search for fossils, but this section occurs in a piedmont location where I can expect to find non-sedimentary deposits. It was now taking longer for darkness to arrive, unlike earlier in the season. In addition to some feldspar, I found another sizable chunk of pegmatite giving off a brilliant green glow. Some rocks present under a nearby overpass glowed white, and these turned out to be manmade material.



Tenth evening: Hunt Valley area. Even with the traffic and driving distance, it was still daylight when I arrived to the area and had to wait for some time until it was dark enough to explore. One of the sites I want to check out is an outcrop of the Cockeysville Marble, another is a garnet schist exposure in the mall area, a locally well-known site. A security guard was regularly patrolling the area, and while waiting for the darkness I noted the frequency of his patrol route. Between 3 and 4 minutes per round. When it was finally dark enough to explore, I waited until the security guard passed by and quickly dashed out to investigate the garnet site for a couple of minutes. Nothing. I then headed for the marble outcrop, less than a mile away. There was a reddish brown fluorescence on some of the marble, but a closer look revealed that lichens on the rocks were responsible.

During my exploration of the various sites, bending over with the shortwave lamp was not the best thing for my back, so I rigged the lamp to a 3-ft long handle made of PVC pipe so now bending over to examine rocks is minimal.

As EST draws to an end, I now can focus more on daytime work commute collecting in addition to the kick-start of the collecting season for the various clubs in the area. I will still use the lamp to occasionally examine suspect rocks and minerals I encounter during some daytime collecting, but it will

not be even close to the extent I did during the time when the darkness came early.

Member's Finds

Text by Dave Lines; photos by Dave Lines and Diane Sylvistri

Purse State Park in Charles County, MD this past Saturday March 11th. It was a joint trip with 4 people (Bill, Rich, Lorna and Dave) from the Southern Maryland Rock and Mineral Club and 5 people (Diana, Bart, Brian, Will and Alex) from the Delaware Mineral Society. Blowout tides exposed a wide section of the beach during our entire visit. Everyone found something worthwhile --- including sharks teeth to 1 inch long, fossil turrifera molds to 4 inches long and various pretty rocks from the abundant pebbles on the rocky/sandy shoreline. Virtually everyone made it the entire distance (2 miles each way). The 2 young boys (with age 6 energy and enthusiasm) had especially great fun finding teeth and turriferas plus everything else from "beaver sticks" to "catfish skeletons" while playing in the water and climbing over fallen trees and chunks of cliff. Some interesting finds included a few shiny black pieces of botryoidal bog iron (which Lorna plans to wirewrap) and I found a nice piece of petrified wood. I also saw some nice "purple" (aka "antique") sea glass. All in all, despite the cold NW winds and a high temp of about 40 degrees, it was a great trip.





Collected any interesting specimens? Send a photo or two to the editor at bmorebugman@yahoo.com for inclusion in the next issue of Rock Talk.

SMRMC OFFICERS

PRESIDENT

(position open)

Bob Davidson acting President

Membership Chairman

Polly Zimmerman

polly.zimmerman@verizon.net

Programs Chairman

Carole Raucheson

caroleal@verizon.net

Secretary

David Lines

Dave.lines@earthlink.net

Field Trip Chairman

David Lines

Dave.lines@earthlink.net

Ralph Gamba

rgamba@verivon.net

Treasurer

David Lines

Dave.lines@earthlink.net

Editor

Timothy Foard

bmorebugman@yahoo.com

Webmaster

Bob Davidson

Bob.Davidson2@Yahoo.com

AN OFFICIAL SMRMC FIELD TRIP

Subj: An Official Trip of the Southern Maryland Rock and Mineral Club(*) --- Field Trip to Sterling Hill Super Dig, Ogdensburg, New Jersey on Saturday, April 29-30, 2017

Meeting Time --- 9:00 a.m. at the registration booth on Saturday, April 29, 2017.

Club Membership --- attendees must be a paid up member of a AFMS Club that carries insurance.

You must have your membership card with you at the registration booth.

Trip Leader --- None—this is a come on your own trip

Locations --- Sterling Hill Mine, Ogdensburg, NJ and Franklin School, Franklin, NJ.

Directions to Sterling Hill: see google maps driving directions.

Safety --- The location will require signing a waiver. Common sense says to wear gloves, **eye protection is necessary**, wear sturdy shoes/boots and long pants, use sunscreen and stay hydrated. Stay alert.

What to Collect ---Fluorescent minerals at the dig. Everything under the sun at the show.

SEE WEBSITE: *Sterling Hill Super Dig*. All of the information is there in great detail. You must pre-register on the website: uvworld.org.

Recommended Equipment --- UV lamp (you can rent them there if you do not have one), black blanket or cloth if you want to cover up rocks during the day in the field to examine them) sturdy shoes/boots (no sneakers or sandals), work gloves, **safety glasses are a must, hard hat is required**, rock hammer, crack hammer, (chisels-only if you want to break some large rocks), 5 gal. bucket, small hand truck if you plan on collecting a lot of rocks (buckets get heavy very quickly- just remember there is a charge of 1.50 per pound), flashlight, Rain poncho nice to have. Bottled water/snacks.

Mine Descriptions / Hints --- Research the web --- good info and pix of what to expect at the place is readily available. If you do your homework, your experience will be more enjoyable. Be prepared to do a lot of walking, the mine and museum tours take up a great deal of time and miles....very well spent time! A must for first timers!!

Vehicles --- Plenty of parking near the mine. Signs will be posted.

Fees --- Pre-register. \$20.00 per person to attend. Equipment can be rented. Must be member of the club for our insurance to be credited to attendees.

Misc --- Children 5-12 can only collect in the mine dump run. 12 and over can collect in the pits with the adults. All children can go on the tours as long as they are able to climb the ladders. This is a "rain or shine" event. It is still cold there in April, dress accordingly.

Motels- there are plenty of motels within 20 miles of the mine. The ones south of Ogdensburg are much more inexpensive than the ones north near the ski resorts. If you are interested in going, let me know and I will tell you which hotel I am staying in.

Assumption of risks, waiver, and indemnification agreement (binding for all fieldtrips)

For the purpose of this waiver "field trip facilitators", also referred to as "releasees", include the Gem, Lapidary, and Mineral Society of Montgomery County (GLMSMC), owners, operators, and managers of properties visited as part of the field trip, any third party facilitating, supporting, or managing the field trips, and any affiliates, agents, or officers and directors of these entities. Fieldtrips are events, including educational and collecting trips, organized or announced by the GLMSMC, its officers and directors, or their agents. This agreement applies to all such trips as well as activities involving preparation for or transportation to the event.

ASSUMPTION OF RISKS

Field trip attendees are solely responsible for their own safety. If the attendee brings minor children, the attendee is solely responsible for their safety and supervision. Fieldtrip facilitators provide no supervision of children.

Quarries and other field trip sites have hazardous areas that cannot be made completely safe. Collecting is inherently risky. Risks include falls, wall collapses, collisions with mobile equipment, injury from falling material, flying material, inhalation of dust including asbestos, snakes, insects, contact with toxic natural or man-made material, explosions, and damage to personal vehicles.

Neither the club or property owners provide any insurance or funds to treat injuries that occur during collecting. Attendees must rely on their own insurance and financial resources to handle such events.

The fact that the club or property owner may insist attendees follow safety or etiquette rules or warn that an area or an activity is unsafe does not imply a duty to forbid attendees from or warn them away from all unsafe spots or unsafe activities. Attendees should not assume an area is safe just because others let you work there or are working there themselves. Attendees must use their own judgment, accept the consequences, and hold all others harmless.

Attendees recognize that the fieldtrip facilitators do not make any representations about the character or conduct of any third parties on the property or attending the fieldtrip and are not responsible for their conduct.

INDEMNIFICATION FROM ALL CLAIMS

All attendees agree to indemnify, save, and hold harmless the releasees from any and all liability, causes of action, claims, demands, costs, or debts of any kind incurred or arising from participation in any field-trip, even if such cause is an injury or property damage resulting from error, omission, or negligence by one or more of the releasees. Attendees agree that this waiver is binding on any heirs, insurers, or third parties that may bring a claim on their behalf.

If the terms of this waiver are unreasonable or unacceptable, one must not participate in the field trip.

INDEMNIFICATION OF RELEASEES AGAINST CLAIMS FROM MINOR CHILDREN OR OTHERS IN MY CARE

If despite signing this waiver, I or another person, including my minor child, makes a claim resulting from my, my minor child, or dependents participation in this event or other fieldtrip, I will indemnify, save, and hold harmless each of the releases from any litigation expense, attorney fees, loss, liability, damage or costs any may incur as the result of such claim.

OTHERS ARE PERMITTED TO INCLUDE PARTICIPANTS IN PHOTOGRAPHS OF FIELDTRIPS (PHOTO RELEASE)

All participants grant to the fieldtrip facilitators and participants the right to take photographs of them and their family members or property present at the trip. The participants authorize any of the photographers or fieldtrip facilitators, their assigns and transferees to copyright, use and publish the same or in print and/or electronically. Participants agree that these individuals or organizations may use such photographs with or without their names for any lawful purpose, including for example, publicity, web content, or advertising.

SEVERABILITY and JURISDICTION

The attendee agrees that the venue for any dispute related to this agreement or any fieldtrip shall be the State of Maryland and the County of Montgomery.

The attendee hereby expressly agrees that this release and waiver is intended to be as broad and inclusive as permitted by applicable law and that if any portion hereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

AGREEMENT TO FOLLOW RULES

The attendee recognizes that participating in these fieldtrips is a privilege subject to revocation by any of the releasees. Attendees agree to follow all trip rules and agree to leave the property if asked to do so by the property owner or representative or employee of the property owner or trip leader, regardless of whether the attendee agrees with the decision. If the attendee disputes a decision of a fieldtrip leader, he or she must still follow the instructions of the leader and address the issue according to the rules of the respective club. The attendee agrees not to litigate such disputes and agrees that the above indemnification agreement applies to any such litigation he or his agent pursues on his behalf.

The undersigned has read, understands, and agrees to the above "Assumption of risks, waiver, and indemnification agreement," agrees to follow the rules (below or attached), and represents that they are a member in good standing of a participating club and are attending voluntarily and for their own enjoyment. I further acknowledge that my agreement applies to all GLMSMC fieldtrips.

_____	_____	_____
Participant (signature)	Printed Name	Date

If participant is a minor:

_____	_____	_____	_____
parent signature	Parent name	Date	

Rules

1) Required safety equipment.

The following equipment is required for everyone, including minors. Collectors missing required safety equipment will be asked to leave.

- **Hard Hat** (ANSI Z89.1, certified for industrial head protection and with a mfg sticker showing it is no more than 5 years old. These are readily available at home improvement centers (ie. Home Depot, Lowes) and hardware stores. Bike helmets and other sport helmets are NOT suitable).
- **Eye protection** – safety glasses and/or goggles

- **Steel toed shoes** (boots that provide ankle support are far safer than low cut steel toed shoes). Soft toed sport shoes are not safe or acceptable.
- **Gloves**
- **Long pants**
- **Fluorescent safety construction vest** (some quarries will require these, we may not know ahead of time).

Other safety equipment (we don't check for this, but you should use it!):

- **sunscreen**
- **drinking water**
- **fully charged cellphone**
- **snacks**
- **raingear**
- **bandaids for minor cuts**

2) **Children:** I will post the age limits with each trip. In quarries where children are permitted, parents are responsible and assume all risk. Parents should stay with their children, watch them, and leave with them when they become too restless to be safely monitored. Children must have the required safety equipment specified above.

3) **General rules:** Collectors must RSVP by the date specified in the announcement. Quarries are hurting from the recession and don't want to send their employees out to supervise only two or three collectors, so we need to give an accurate headcount ahead of time. I will have to be less lax about this going forward. If I find I don't have enough people the Thursday or Friday before the trip, we may have to cancel. **DO NOT BE A NO-SHOW!!**

Collectors who are late may miss the safety briefing and hence the privilege of collecting. Please be on time!

It is important to obey all instructions of the group leader, the group leader of any other participating club, and quarry employees. Failure to do so or unsafe behavior can lead to a collector being forbidden to participate in future field-trips, and other sanctions.

In any site covered by OSHA or MSHA rules (quarries, construction sites), hard hats, eye protection, and hard toe boots must be worn at all times.

All trips will have a group leader, either the field-trip chair or his designee. Most quarries don't want groups entering without a leader.

If you find a spot and need to get a tool to work it or take a break, leave a tool by it to mark it as a spot. Honor other people's spots.

If you find a nice boulder, are studying it or starting to "work it" and another collector, who is also searching the area informs you that he "found" that a few minutes ago, politely thank him and let him know that you have decided to work on it.

Don't "claim" any spot you are not currently working, unless you are merely getting equipment to help you work it or taking a break. Let others have the joy of discovery. If you claim more than one spot at a time or keep searching for new spots, don't complain if someone starts working one of them.

Removal all tools, food wrappers, and trash from the site; don't be a litter bug!

4) **Collecting equipment.**

- Backpack for tools, etc.

- Water--for drinking and rinsing potential specimens.
- Newspaper & boxes -- for wrapping & carrying specimens
- Five gallon bucket (or something similar for schlepping things around)
- A 3-5 pound blacksmith's hammer or hand held sledge. Do not use carpenter's hammers!
- Cold chisels or masonry chisels. Use wood chisels only if you enjoy ruining your tools and showering yourself and your friends with shrapnel.
- Long arm 8+ pound wrecking hammer--for breaking big boulders.
- An old pocket knife or small screw driver for prying apart small delicate specimens.
- Magnifying glass or loup for examining smaller specimens.
- Camera
- Battery powered UV lamp & dark shroud for lamping fluorescent minerals.
- Pen and notepad for signing safety briefing log and recording names, details, and useful information.

5) **Photography.**

Photography is permitted. If the photos of company equipment are expected to be posted on the website, please ask the host employee for permission first. Please also inspect photos so that photos that may show inadvertent safety issues (e.g. someone who removed their goggles) are not distributed or posted on the web. We have had situations where this has created problems; and also situations where companies have used photos from club members in their material.

Site Specific Hazard Recognition Training

As required by CFR Title 30 Part 46.11
Gettysburg Quarry (July 27, 2015)

Quarry Information

1. The quarry superintendent is Bruce Gillin.
2. All workplace and equipment hazards shall be reported to Randy Pritt or Bruce Gillin.
3. The quarry is on channel 5 on top and channel 14 in the pit
4. The address is: New Enterprise Stone & Lime, Gettysburg Quarry, 1575 Baltimore Pike, Gettysburg, PA.

Emergency and Evacuation Procedures

1. In the event of a fire or emergency, Wendy Crouse or Randy Pritt can be reached on channel 5. They will contact 911. Please state the nature and location of the emergency.
2. If an emergency occurs, all persons are required to act under the direction of Randy Pritt or Bruce Gillin.
3. First aid supplies are located in the Office and control rooms at the primary, finish and wet plants.
4. Fire extinguishers are located throughout the plant and on all equipment.
5. Should the emergency require evacuation, all persons shall meet at the shop.

PPE (Personal Protection Equipment)

1. Hardhats, safety glasses, hi-visibility vests or shirts and protective footwear are required in this quarry when out of your vehicle.
2. Hearing protection is required when exposed to high noise levels or where designated.
3. Proper fall protection is required when working in an elevated work position and there is a danger of falling.
4. Proper dust and mist respirators shall be worn when conditions warrant.
5. Hardhats, eyeglasses, hearing protection and fall protection are available at the scale house if needed.

Haulage and Haulroads

1. No drivers are permitted outside of their vehicle while being loaded unless instructed by the loader operator.
2. Never stand between the toe of the stockpile and your vehicle.
3. No drivers are permitted on top of their trucks.
4. **Left hand traffic is in effect only in the pit area** Right hand traffic rules are in effect on the rest of the quarry property.
5. All persons operating motor vehicles in the mine site must wear seatbelts.
6. All traffic must yield to quarry equipment and also maintain a safe distance when traveling behind quarry equipment.
7. Make sure equipment operators are aware of your presence in the area before you pass through, either through eye contact or verbal contact. Avoid parking or traveling in the blind spots of large pieces of mobile equipment.
8. No vehicle maintenance work is permitted unless the vehicle is properly chocked, blocked and proper PPE is used.
9. The speed limit at the plant area is 15 MPH. All other traffic and warning signs and signals shall be followed at all times.
10. Special caution must be taken when traveling under overhead conveyors or the electric lines near the scale house. Make sure truck beds are down and automatic tarpers are not activated.

General Information

1. One to two minutes prior to a blast being detonated, there will be audible warning consisting of three long blasts (12 seconds each) of an siren. After the blast has been detonated, a long blast of the air horn will signal that the area is safe to enter.
2. All persons on the mine site shall stay clear of high walls and bank areas unless accompanied by a qualified person.
3. Any maintenance work shall be done in accordance with New Enterprise's lock-out and tag-out procedures.
4. All confined space work will be performed in accordance with NESL policy and under the direction of quarry personnel.
5. MSDS sheets are located in the scale-house.

I have read the above hazard training instructions and understand these requirements.

Print name _____

Signature _____

Company Name _____

Date _____

WAIVER AND RELEASE FOR ADULT VISITORS

For and in consideration of being granted permission to visit the premises of NESL West Region - Gettysburg Quarry ("Owner") located at 1575 Baltimore Pike Gettysburg, Pa. 17325 for the purpose of rock collecting only ("Owner's property"), the undersigned does hereby knowingly and voluntarily remise, release and forever discharge Owner, its subsidiaries, successors and assigns, agents and employees, of and from any and all manner of actions, causes of action, suits, debts, judgments, contracts, obligations, liabilities, agreements, and all other claims and demands of any nature whatsoever, whether in law or in equity, and elects to and does assume all risks for claims heretofore or hereafter arising from or on account of or in any way growing out of any and all known and unknown, foreseen and unforeseen, temporary or permanent bodily and personal injuries and property damage and the consequences thereof, resulting or to result from the activities on Owner's property.

Scheduled Dates(s) of Visit:

4/18/2017

WITNESS:

VISITOR:

_____ (Sign)

DATE:

_____ (Print)

WAIVER AND RELEASE FOR MINOR VISITORS

I _____ confirm with the execution of this waiver that I am the legal parent(s) or guardian(s) of _____ (“Minor”) and I give my permission for Minor to visit the premise of NESL-Gettysburg Quarry (“Owner”), located at 1575 Baltimore Pike Gettysburg, Pa. 17325 rock collecting only (“Owner’s property”), and furthermore, for and in consideration of Minor being granted permission to visit Owner’s property, the undersigned does hereby knowingly and voluntarily remise, release and forever discharge Owner, its subsidiaries, successors and assigns, agents and employees, of and from any and all manner of actions, causes of action, suits, debts, judgments, contracts, obligations, liabilities, agreements, and all other claims and demands of any nature whatsoever, whether in law or in equity, and elects to and does assume all risks for claims heretofore or hereafter arising from or on account of or in any way growing out of any and all known and unknown, foreseen and unforeseen, temporary or permanent bodily and personal injuries and property damage and the consequences thereof, resulting or to result from the activities on Owner’s property.

Scheduled Dates(s) of Visit:

4/18/2017

WITNESS:

VISITOR:

_____ (Print)

DATE: _____

_____ (Sign)

Parent or Legal Guardian:

_____ (Print)

_____ (Sign)



The Southern Maryland Rock and Mineral Club

Meetings take place on the 4th Tuesday of each month at 7:00pm

Clearwater Nature Center, 11000 Thrift Road, Clinton, MD.

For More information, call:

(301) 297-4575

We're on the web:

SMRMC.org