As an amateur rockhound with absolutely no background in geology and chemistry, I was intrigued by a very basic question: what makes amethyst purple?

I recently attended a field trip near Farmville, VA on an amethyst hunt. I found beautiful specimens of very dark to very light amethyst. My basic knowledge of amethyst is; it’s just purple quartz. Ok, so why does quartz come in different colors? To answer this question, I logged onto my trusty computer and began to do some research. I checked with several reference sites and came up with an answer they all seemed to agree upon.

The presence of manganese, iron, ferric thiocyanate and sulfur create the purple color when they are irradiated. When the iron ions (impurities in the quartz) are irradiated they rearrange themselves in the crystal lattice and create the purple color. The interesting thing about this process is that it is reversible. Amethyst can be made simply by gamma-ray, x-ray or electron beam irradiation of clear quartz that has been doped with ferric impurities. I don't think this is something you can do in your microwave oven, so don't bring your quartz into the kitchen hoping to create the perfect amethyst stone!

Another interesting tidbit is that when amethyst is exposed to heat, the effects of the irradiation can be partially cancelled to create yellow citrine and some green colors.

So, yellow quartz jewelry is generally "burnt amethyst". Natural citrine is very rare, so most of the citrine you see on the market is actually amethyst.

I guess that's why being a rockhound is a huge bonus. When you go out in the field and dig up your gemstones from the earth, you know you're getting the "real deal".

It's very rewarding to slog around in a hole full of muck and boot sucking clay and dig until you find your first glittering stone. There is definitely no better way to play in the dirt!

Ref: Desertusa.com
Wikipedia.org
Wiki.answers.com
Gemstones.org
EFMLS/AFMS News
Submitted by Jessica Dixon

AFMS and EFMLS both have combined issues with June. So the information this month is the same as last month. In case you don’t remember, here are the tastes of the issues from June.

The EFMLS President did an amazing job this month talking about the BLM issue. Check out what she had to say and join the movement to protect our lands for future rocking.

We were kindly recognized as being the first club to send in a monetary donation for the auction at the convention this year. Way to go SMRMC!

For more information on any of these articles, visit www.amfed.org/efmls

Here is a last minute reminder of the AFMS/EFMLS Convention in Syracuse, NY on July 6-10. If you are interested in going to the show, be sure to visit the AFMS website for more information!

For more information, visit www.amfed.org

Upcoming Shows and Events
Submitted by Ralph Gamba


September 24- 25, 2011: 47th Annual Atlantic Coast Gem, Mineral and Jewelry Show. www.gemcuttersguild.com Howard County Fairgrounds, I 70 at Route 32, West Friendship, MD Saturday 10 AM – 6PM, Sunday 10 AM – 5 PM. Admission $5.00.


If anyone has information on any other local shows or rock events, contact Ralph Gamba at rgamba@verizon.net, so they can be included in this list.
DATE: JUNE 25, 2011

MEETING WAS CALLED TO ORDER AT 7:05 P.M.

27 MEMBERS WERE IN ATTENDANCE

TREASURER: No change

MEMBERSHIP: No report

PROGRAMS: July’s program will be OPAL FEVER III
August will be the auction and Jessica will take over
Bob’s job in his absence.

FIELD TRIPS: July 9 Farmville VA for amethyst crystals $20/person $10 for children
under 10
July 16 Ralph leading trip to the US silica mine, 6 person limit ,with
standby list only at this time. This is a joint trip with the
Shenandoah Club.
Aug 1-7 Rockhound Roundup sponsored by MAGMA in North Carolina
$30/person/week info at Dirtyrockhounds.com or see Dave
Sept 17 Lake Anna Swap rescheduled to this date
Sept 24 Willis Mountain Kyanite trip Dillwyn VA, open to all clubs
Sept 12-22 Utah rockhounding around the Delta area. 6 people have
signed up so far.

EDITOR: Jessica has updated the mailing list and dropped non-paying members from
the list. If you have been dropped in error please let her know.

WEBMASTER: Morefield Mine field trip report needed for web site. Jessica will provide
it.

OLD BUSINESS: No old business

NEW BUSINESS: Harry has reserved the Equestrian Center again for our show. This
will be the same weekend as the Gun show. Committee needs to
be formed soon.

A suggestion was made to put a display case in the Nature Center
showcasing our club with minerals, etc to advertise our club. Polly
may be able to supply case and the club has minerals available
in the basement.

ADJOURNED: @7:30 for refreshments followed by Swap & Sell
On July 16, 2011, members of the Southern Maryland Rock and Mineral Club (SMRMC) went on a trip to the U. S. Silica Quarry in Montpelier, Virginia. The Shenandoah Valley Gem and Mineral Society hosted the trip, and they allotted 6 slots for our club. Because of cancellations, we received two more slots. Dave, Rich, Joe, Paula, Ralph B., Marco, Mary and Ralph G. attended from the SMRMC, (Figure 1).

![Figure 1. SMRMC members gather for a day of collecting.](image)

Kevin Randesi, the Quarry plant manager met us and provided a safety briefing, a brief description of the quarry, and the products made from quarry material. The quarry mines aplite for use in glassmaking. The aplite contains aluminum oxide which aids in forming the glass along with durability and stability of the glass when heated. Corning Glass and Anheuser–Busch are among the numerous companies that use material from the Montpelier Quarry.

The Quarry received the Safety Sentinel award. Mining is inherently dangerous, so Kevin warned us to stay away from the high walls, banks, and from walking under equipment. Kevin also said to set our parking brakes while in the quarry. He also recommended wheel chocks, but didn’t have enough for everybody.

After the briefing, Kevin brought us to the East side of the Quarry. This area contained abundant moonstone and some garnet. The moonstone had a nice silver flash, great for making cabochons. Ralph G. did find a greenish crumbly mineral which no one could identify.

Around 10 AM, Kevin brought us to the West side of the quarry (Figure 2). This area had more garnet in mica schist. A member of another club reported some success in polishing the garnets in matrix. She said the red garnets with the black mica schist and white feldspar made a nice cabochon.
After gathering garnets, a group headed to a bench above the quarry floor. Mary gathered pink feldspar. At the end of the bench, Dave reported that there was a boulder with massive rutile, a titanium oxide (Figure 3). There was enough rutile for anyone who wanted samples.

Dave also reported finding some pyrite along with ilmanite and bronzite. Ralph G. found a small amount of iridescent material.

At noontime, we started our exit to return to the office, change clothes, and wash our hands from the morning of collecting at the U. S. Silica Quarry.
As promised, a backhoe had removed more overburden of clay from the vein area. And it had **rained almost 2 inches during the previous night.** So when we arrived, small, shiny purple crystals were visible everywhere. All our attendees (*SMRMC Members Dave, Harry and Tina, Joe and Paula, Rich, Mike and Pat, Polly, Ralph B., and RGMS members Lynn, Tom and Bob S.*) immediately began a surface search picking up loose crystals and small clusters. What fun!

In fact, this trip promised everything --- mud, hard digging and hot 90 degree weather --- that separates the serious rockhounds from the pack. My hat is off to these folks --- not a single person quit or left before 3 p.m --- that was 8 hours of straight digging. Why did everyone stick with it? Because we kept finding crystals and the potential to find even better stuff was right there in front of us.

The owner showed us a gorgeous deep purple amethyst cluster of 1 to 1½ inch crystals --- the cluster was as big as a person’s hand with the fingers spread out. She said it was appraised at $500. That really got our attention.

But the biggest factor for the non-stop enthusiasm was simply that we continually kept finding veins. And the deeper we dug, the better the finds were. That really kept us motivated.

The digging area was about 100 feet wide and about 200 feet long. It had originally been the edge of a pasture along the woods which sloped down to a wooded stream. Nearly all the trees had been bulldozed from the site and a trench had been gradually dug about 10 feet wide and 6 to 8 feet below the original grade. The owner said he had been finding amethyst there for most of his 71 years.

The State geologist had looked over the site and determined that the amethyst extends for over ½ mile and goes very deep. The potential is very real.

For most of the morning, the digging area was shaded by the woods, but by noon some of us set-up some portable market umbrellas. My EZ-Up tent was a lifesaver. Great shade under it and the slight breeze made it quite tolerable to dig.

The techniques varied ---- Ralph spent most of his time surface searching --- and did well. Most of us dug in a general line about 10 feet wide that more-or-less followed the veins. Once a small vein was located, we simply followed it. Sometimes it was thin and sometimes it widened with small pockets of crystals. Most of the pockets we uncovered contained broken crystals that had been broken long before we arrived --- probably broken by earthquakes. The clusters we found seldom held together. The surrounding matrix was red clay and rotten mica and rotten granite. In general, deeper digging yielded better and larger crystals. To a person, we all want to go back --- soon.
Hello all. Hope you are finding ways of staying cool during these dog days of summer. It is hard to believe how incredibly hot it has gotten. But it looks as though the heat hasn’t stopped field trips from occurring, which is great for the newsletter.

Please remember that there will not be an August issue of the RockTalk. There will be a (hopefully) larger edition in September. I'll still send out a reminder for next month's meeting.

August’s meeting is our annual Potluck and Auction. Please bring a dish to share next month. Also, go through your pieces. If you have any specimens you’d like to sell, bring them to the auction. Ten percent of the sale will go to the club’s treasury. If you aren't looking to sell (even if you are), but looking to buy, remember to bring some cash with you.

Please keep your articles coming. I have the September edition started with the pieces that wouldn’t fit this month, but it would be great to have it packed with all your ideas and adventures!

Stay cool and stay safe. Remember to drink a lot of water if you are venturing outside!

Ice and Rock
By Cheryl Reese

Rock being moved by ice. The amazing forces of nature at work. Picture taken during Alaskan Cruise.
Next Meeting
July 26, 2011
7:00 PM

Refreshments:
Joe and Paula Davis

Program:
Australian Opals Part 3

August Program: Annual Potluck and Auction. Look for more information coming soon!