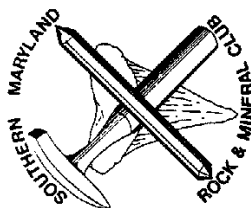


Message from the President



SOUTHERN MARYLAND ROCK AND MINERAL CLUB

RockTalk



TRINITITE

On a recent trip to New Mexico, I stopped in a rock shop in Albuquerque and purchased several specimens. One of these was Trinitite, sometimes called Atomite or Alamogordo glass. Trinitite is a fused glass that resulted from the detonation of the first nuclear bomb test at the Trinity site (35 miles southeast of Socorro, NM) on July 16, 1945. Sometimes people use the term Trinitite to refer to the glass from any nuclear explosion, but generally it refers to material from the original Trinity test. The Trinity test yielded approximately 20 kilotons (TNT equivalent), and vaporized the steel tower holding it. It was a plutonium implosion design device, the same type that was dropped on Nagasaki, Japan on August 9, 1945. Some of the chemical elements from the steel tower, cables and other instrumentation from the test became part of some samples of trinitite, and because they were not part of the local mineralogy, these samples form some

of the rarer forms of trinitite.

When the bomb exploded, the desert sand (largely silica) melted and became mildly radioactive. This typically light green glassy material with bubbles came to be known as trinitite. The bomb crater was filled in soon after the test, and in 1952 the site of the explosion was bulldozed and the remaining trinitite was disposed of. But not before lots of samples had made their way to rockhounds and collectors. The sample that I bought does not show any signs of radioactivity higher than background levels.

Mineralogical studies on trinitite have shown that there are two general types, both derived from the fusing of the natural arkosic sands. One type is from the fused feldspar clay fraction of the sands, while the other type is from the direct fusion of quartz to silica glass. These arkosic sands are composed of angular quartz grains, lots of feldspar (microcline and lesser

amounts of plagioclase), and smaller amounts of calcite, hornblende and augite in a matrix of sandy clay. The glass from the Trinity test in general formed a layer 1-2cm (about 3/8 to 3/4 of an inch) thick. The upper surface usually contains a sprinkling of dust that fell on the molten glass and became imbedded there. In 2005, a new theory about the formation of trinitite was proposed. This theory hypothesizes that the sand was sucked up into the atomic fireball, and then melted in the air and "rained" back down to earth.

There are known fakes of trinitite in circulation, and the verification tests really depend on how much money one wants to spend. Most tests rely on the radioactivity and daughter products present. The Trinity site is currently open twice a year, on the first Saturday in April and October, but collecting is not permitted. I hope to visit one year and see the site for myself.

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Meetings

...are held the 4th Tuesday of each month at 7:00pm.

Clearwater Nature Center 11000 Thrift Road
Clinton, MD.

For more information, call Michael at (301) 297-4575.

Upcoming Shows and Events

Ralph Gamba

November 21 & 22, 2009 – 18th Annual Gem, Mineral and Fossil Show. Student Union II Building, George Mason University Campus. Braddock Rd and Route 123, Fairfax, VA. Saturday 10-6, Sunday 10-4. Adults \$4.00, Seniors & Teens \$3.00, Children 12 and under free.

November 21 – 22, 2009. Gem Miner's Holiday, Lebanon, PA. Saturday 10-5, Sunday 11-4. Admission \$5.00, Children under 12 free. Lebanon Expo Center, Route 72. www.gem-show.com. 717-838-8870

December 12, 2009 – Fall Festival of Fine Minerals 10 AM to 4 PM. Holiday Inn, 9615 Deereco Road, Timonium, MD. I-83, exit 17

March 6-7, 2010 - Delaware Mineralogical Society. Delaware Technical & Community College, Churchmans Road (Rt. 58), Newark (Stanton) DE @ I-95 exit 4B. Saturday 10-6, Sunday 11-5. Admission adults \$6.00, Seniors \$5.00, 12-16 - \$4.00

March 12, 2010– Rock and Mineral Auction: Chesapeake Gem and Mineral Society, Women's Club of Catonsville, St. Timothy's Lane & Frederick Rd in Catonsville, MD 7:30 PM

June 11, 2010 - rock and mineral auction Chesapeake Gem and Mineral Society, Women's Club of Catonsville, St. Timothy's Lane & Frederick Rd in Catonsville, MD 7:30 PM

August 14-15, 2010 – Native American, Fossils, Rocks, Gems and Minerals Themed flea market Shupp's Grove, Adamstown, PA
www.shuppsgrove.com 607 Willow St. Reinholds, PA

October 8, 2010 - Rock and Mineral Auction: Chesapeake Gem and Mineral Society, Women's Club of Catonsville, St. Timothy's Lane & Frederick Rd in Catonsville, MD 7:30 PM

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.

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***If corrections or additions are needed, please contact Rocktalk Editor

Minutes...

Polly Zimmerman

October 27,2009

Meeting was called to order at 7:15 PM.

Secretary: The Minutes was approved as printed in the “Rock Talk”.

Treasurer: No change.

Membership: No new members.

Programs: Tina and Harry will present a program on the Utah Trip.

Field-trips:

Vulcan trip was cold and rainy.

Mt Ida trip was a great success.

Morefield mine trips-November 12th Thursday / November 21st Saturday.

November: 14th Richmond Rock Swap.

December:

Wed. 2nd / 16th Fossil trip to Flo’s.

Sun. 6th / 13th Rockville Quarry

Editor: Jessica announced that more articles will be submitted for next year’s competition.

Webmaster: There are 2 trip reports and Rock Talk are on the website. Bob will begin to archive out of date material.

Old Business:

Mineral, Jewlery and Fossil Show on Feb.20th plans are progressing. The show information will be added to the web site.

New Business:

Christmas Party: Tuesday December 15th / potluck 6:00 pm Chinese gift exchange.

Party flyer to follow.

Meeting adjourned 8:00 pm for snacks and program.

Special News: Jessica and Andy are engaged!!!!!!!!!!!!!!

Vulcan, Manassas in the Rain

Dave Lines

When we showed up at the designated time of 7:30 a.m., a huge double gate was across the road and **locked**. By 8:00, I was getting concerned as there were a significant group of folks now parked in front of the gate and no one from Vulcan had appeared. We chatted nervously with each other --- hoping that the trip would not be cancelled. At about 8:15 a.m., a quarry representative named "JT" finally arrived in a white Vulcan truck --- he had been told that we would be there at 9 a.m. and had been checking out the quarry to locate safe areas for us. Whew!! All was now well.



After driving into the office parking lot, we discovered that several clubs were present and I assumed that each of the other clubs had been granted permission separately by the Vulcan point-of-contact. This was true --- sort of. Somehow, our trip announcement had been forwarded to other clubs without my knowledge. But not to worry because the WEATHER was TERRIBLE --- drizzle, light rain and chilly --- and we did not have enough members from our Southern Maryland Club anyway. I had originally been given 20 slots just for our club and when it became evident in the planning stage that we would not have that many, I had offered 10 of the spaces to the Lynchburg and Roanoke Clubs plus one from Richmond. That morning, I

had only had 12 of the 20 folks that I had expected. So when members from 2 more clubs turned up, it was fine. All together, we numbered just over 20 folks total. In fact, we had 6 clubs (Southern Maryland, Lynchburg, Richmond, Roanoke, Northern Virginia and the Virginia Gem and Mineral Hunters) represented and I knew many of the participants anyway. Southern Maryland Club members included Harry, Tina, Christine, Ralph, Polly and Dave L. Lynchburg had John, Gina and Lisa --- and Roanoke had Mike D., Walter and Geridine plus Mike H. from the Richmond Club. Joe from the Virginia Gem and Mineral Hunters --- and Ted, Dave H. and several others from the Northern VA club.

"JT" was satisfied and explained the safety precautions for the quarry to the assembled group. After donning full safety gear (hardhats, safety glasses, heavy gloves and steel toed shoes) and signing a waiver sheet, we followed him into the quarry, heading first to a new "shot" (an area which had been recently blasted). There, we parked our vehicles, donned our raingear and spread out to look for prehnite and associated zeolites.

A quick check of the shot area revealed lots of good, solid rock, which was good for the quarry, but not much interesting for us, so I walked along the road adjacent to the safety berm, while keeping an eye out for something different than the uniform dark gray diabase. I spotted pink dolomite, white calcite and a single 1-½ inch thick seam of massive prehnite (that might be good for a lapidary project). Checking back with the others at the shot area, several had congregated on the left side where Ted Carver (No. Va.) and a buddy were pounding on a huge boulder which was striped with thin veins of prehnite.

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Vulcan, Manassas

...CONTINUED

About 9:30, we decided to move as a group to a lower level. I spotted Dave Hennessey (No. Va.) and he said he knew of an area where we might find some stilbite, but that it would take “*a lot of work*” (his words) to get it out. Okay. Fine. We had nothing to lose but time and energy, so Polly and I followed him to a bench marked 40 feet below sea level. There he pointed out some very small (1/4”) round balls of honey-yellow stilbite in the gravel and mud on the floor of the bench.

Ah ha!! Now we had something of interest. After examining the area, I began clearing away the larger rocks and then scraped away the few inches of gravel (actually rock chips and rock dust which had turned to gray mud) which covered the floor of the bench. Meanwhile, I had asked Polly to take two 5 gallon buckets and go to a nearby puddle, and use one bucket to fill the other, then bring it to me. By the time I had cleared the gravel away, Polly had the first bucket of water. I poured the water over part of the area while scrubbing it clean with a large scrub brush. Almost immediately, stilbite crystals, or rather, groups of stilbite balls, began appearing from under the gray mud. After a couple more buckets of water, I chose a spot and began digging straight down into the bench floor with a 3 pound hammer and a 12 inch by 1 inch diameter jackhammer pointed drill bit. Within minutes, I began uncovering more pockets of stilbite. With some luck and patience, and lots of hammer and chisel work, we managed to recover about a third of the stilbite clusters intact. Throughout the digging and hammering process, it helped to pour more water on our work area to remove the mud and keep the area clean.

Soon, the word spread to the other participants that we were finding stilbite and within 30 minutes, nearly everyone was digging --- or watching the rest of us dig --- in an area about 10 feet by 20 feet. The rain, which varied from a few sprinkles to a steady moderate rain, was **not** a factor! Hey --- we were finding good stuff and we totally forgot about the weather!! We all worked steadily until about 11:40 a.m., when we called it quits in order to vacate the quarry by noon as requested. All in all, it was a safe and productive trip and we all found enough to be satisfied.



Field Trip to St. Clair, PA...A Different Perspective

Tom Piscitelli

The trip started out in Maryland at a warm 7 AM but as we (Tom & Joy Piscitelli) travelled in Pennsylvania light rain developed with some fog in the mountains. Upon arrival the cold front brought a cold strong wind but the rain stopped. Despite good directions finding the pull off to access the site was dependent on recognizing an informal shooting range off to the right just before the access. We were the first to arrive followed shortly by Al and Carol R. Then a father and son from the North VA club came. We all hiked the 1/2 mile or so into the abandoned surface coal mine. There is no car access. The site is a gently sloping large area with shale exposed from the 300 MYA Llewellyn Formation of the Pennsylvanian epoch of the Carboniferous Period. The shale is black, fine grained containing abundant fossil ferns and horsetail plants. Previous collectors have dug out and left many pieces of shale on the surface.

The uniqueness of St. Clair fossils is that they are preserved as a soft, white aluminum silicate mineral-pyrophyllite which is chemically similar to talc. The area had been a tropical bog. The anaerobic conditions kept the ferns from decaying and the high sulfur content of the bog replaced the plant tissues with iron pyrite. As mountain building occurred, the increasing temperatures and pressure built up causing the pyrite to decay and leach into the surrounding rock. Much of the pyrite was replaced with the white pyrophyllite. Some of the fossils still retain residual sulfur and are yellowish in color. The most common fern varieties are Alethopteris, Neuropteris and Pecopteris. Horse tail plants are Equisetum and Sphenophyllum.

We were able to find examples of all of the above. In addition, pieces of anthracite coal and small quartz crystals were found. The overburden was a conglomerate from the erosion of the mountains. Great examples of the extensive conglomerate can be seen in the road cuts on the way to the site.

Later in the day, the trip leader and three additional Northern VA club members arrived with a rock saw which they were going to use to cut large slabs of shale. There were some pits where others had excavated shale slabs. A lot of the exposed pieces had the white color eroded away leaving just the black carbon impressions of the ferns. Some type of cart would be useful in bringing out any quantity or sizeable pieces collected. The only disturbance to the tranquility was the frequent sound of shots being fired at the nearby range. As the day progressed the sun came out and it was a great day of collecting.

State Gemstones

Jessica Thomson

Alabama	Star Blue Quartz
Alaska	Jade
Arizona	Turquoise
Arkansas	Diamond
California	Benitoite
Colorado	Aquamarine
Florida	Moonstone
Georgia	Quartz
Hawaii	Black Coral
Idaho	Star Garnet
Kentucky	Fresh-water Pearl
Louisiana	Agate
Maryland	Patuxent River Stone
Massachusetts	Rhodonite
Michigan	Chlorastrolite
Minnesota	Lake Superior Agate
Montana	Montana Agate, Sapphire
Nebraska	Chalcedony stone, Blue agate
Nevada	Virgin Valley Black Fire Opal, Nevada Turquoise
New Hampshire	Smokey Quartz
New Mexico	Turquoise
New York	Garnet
Ohio	Ohio flint (Crypto-crystalline variety of quartz)
Oregon	Sunstone
South Carolina	Amethyst
South Dakota	Fairburn Agate
Tennessee	Tennessee Pearl
Texas	Blue Topaz
Utah	Topaz
Vermont	Grossular Garnet
Washington	Petrified Wood
West Virginia	Calcedony
Wyoming	Jade



ROCKTALK

Clearwater Nature Center
Maryland-National Capital Park &
Planning Commission
11000 Thrift Road



[[We're on the web:
www.freewebs.com/smrmc/](http://www.freewebs.com/smrmc/) **]**

Message from the Editor

Happy Thanksgiving everyone! We always reach this time of year and have so much that we are thankful for in our lives. I hope this Thanksgiving holiday blesses you all with much joy.

I am working diligently to gather up articles to submit for this year's bulletin contest. The deadline for submission for this year is December 1st, so I'm looking at the articles already submitted and published in 2009.

I want to express my thanks to those of you who are always writing for the RockTalk. Without you, we wouldn't have a newsletter every month. I

can't write it all myself. I hope that 2010 will bring some fresh ideas and interesting writings for all to enjoy. Remember, even a summary of an article you read somewhere works great! (Just cite your sources please)

Our annual Holiday Party is coming up on the 15th of December. Members with email should have gotten the flyer with more information included. If, for some reason, you did not get that flyer, please email me and let me know. I'm looking forward to a fun evening!

Happy Holiday Season to All!

PROGRAMS/ REFRESHMENTS

November	<u>Program:</u> Summer Trip out West
	<u>Refreshments:</u> Paul & Linda Holden
December	Holiday Party