

Tar Heel Tailings

A newsletter for Gem and Mineral enthusiasts in and around the Raleigh, North Carolina area.

Special Interest Articles:

- President's Report
- A Walk Through Geologic History—Part 1
- Agate

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President's Report

Happy Valentines All You Rock Lovers!

Kiss a Rock Today! (just make sure it's not radioactive!) If you are worried you might have a radioactive rock, remember, you can now test it with one of the new Gieger Counters that belong to the club!

The Super Bowl of Football is past, and the Super Bowl of
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A Walk Through Geologic History— Part 1

By Professor Dion Stewart, Cobb County Gem & Mineral Society

PRECAMBRIAN: Fossils have been used for over two centuries to date when events occurred in the geological history. But there is a huge interval of time that we are unable to date because of the absence of fossils. This is because living organisms did not have the ability to secret hard shells until about 570 million years ago (mya). The Earth's history has been relatively easy to record starting with the Cambrian Period which coincides with the appearance of hard shelled species. All time before that key step in evolution 570 mya is called the "Precambrian", and although it is the vast majority of Earth's total history it is not

based on fossil records. Life that existed in the Precambrian was comprised of microscopic organisms and a few soft-bodied larger

organ-isms that usually decayed when they died rather than becoming fossils.
Continued on page 4

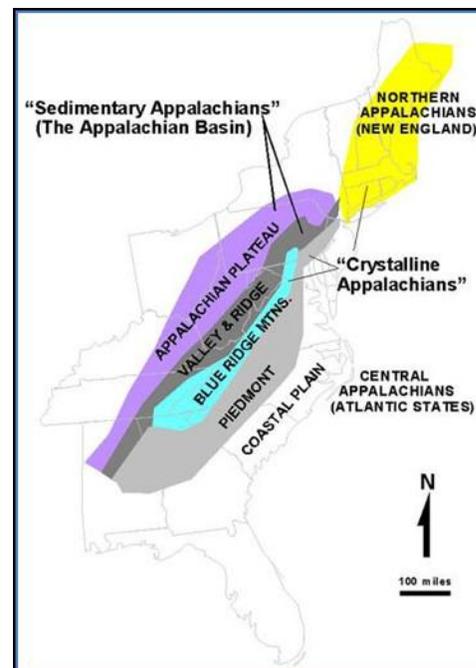


Diagram showing the Blue Ridge, Piedmont, and Coast Plain Provinces of the Southeastern USA.

Tar Heel Gem & Mineral Club, Inc.

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We're on the Web!

See us at:

www.tarheelclub.org

Program & Refreshments

REFRESHMENT SCHEDULE:

Coordinator: Jeanette Baugh (919) 522-9044
villagegems@yahoo.com

February Becky Healy
September Walt Milowic
October Cyndy and Corinne Hummel

PROGRAM SCHEDULE:

February Auction

We need volunteers to bring refreshments for the March meeting. April will be our Potluck again after the show. We need people to sign up for the May, June, July and Nov. meetings. Remember the club will reimburse you for up to \$40 (bring your receipts to the treasurer).

Thank you, Jeanette Baugh

February B-Day Members

Greg Dillon
Kelley Gemma
Kristina Haughton
Barbara Lentz
Mike Shore
Kathy Williams



November & December Treasurer's Report

Oct. Ending /
Jan. Beginning Balance \$6,832.70

Deposits (+)
Members \$725.00
Dealers 300.00
Redeposit 11.52

Sub total \$1,036.52

Checks Written (-)
Storage (1 yr & 1 month) \$1,116.00
Supplies 11.52
Newsletter 53.38
Shelves (storage space) 69.39

Sub Total \$1,250.29

Jan. Ending /
Feb. Beginning Balance \$6,618.93



Membership applications may be mailed to:

Tarheel Gem & Mineral Club
Attention: Treasurer
10609 Chelsea Drive
Raleigh, NC 27603

Tar Heel G & M Club January Meeting Minutes

Tuesday, January 17, 2012

Joe opened the meeting at 7:47 pm.

Minutes were not read.

Joe asked for a volunteer to take Walt's place as secretary.

Joe asked for a treasurer's report. Went over donations the club made. There was a \$2500 donation to the NC State Geology Club and \$500 donation to both William Holland and Wild Acres.

Old Business:

Some shelves were purchased for the storage unit. There are a lot of rocks and silent auction material in storage. Nancy Holland moved and donated a lot of Diamond Hill material for the silent auction.

New business:

There were a lot of new faces at the meeting. Tim and his sons, William and Luke just moved here. Another new family recently moved from Tampa, FL. Emily and Chad joined and are interested in field trips. Talked about trying to get a field trip to the coast.

The annual club show is the last weekend of March and ends April 1st.

Joe put out sign up lists for the show: hospitality, geode, display cases, demonstration booth, and silent auction. Cyndy explained what the different committees do. She mentioned that it was great for new members to get involved. The silent auction could use a lot of help this year.

We need some help (muscle) to help set up and break down for the show. But there is plenty to do for anyone else who comes to help. Mike Franklin talked about how we are going to present for the younger kids at the show. He showed a raised relief map of NC that was purchased. It will be put in a display box, with samples of NC materials with threads connecting to the location where they can be found. We could also put the hardness scale using minerals from NC at the bottom of the map.

President's Report

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Rock Shows is the next BIG event to plan for. Volunteer Sign-Up sheets will be at all the meetings between now and Showtime, March 30, 31, and April 1, 2012. Please look at your schedules and plan to sign up for when and at what booth you will be able to volunteer. This is very important information for the Chairpersons organization of the different booth areas. And don't forget, we prepare the tables, set up display cases, and the Geode, Silent Auction, and Hospitality booths Thursday evening, March 29, from 5:00pm - 7:00pm. Volunteers are Needed!

The first Fieldtrip of 2012 will be Saturday, Feb.18th, or the Saturday before our next regular meeting. This is another very special and historic opportunity that Fieldtrip Chair, Tom Todaro, has been successful at arranging for the club. Hopefully, there will be many great newly found mineral specimens to look at from the trip at the next meeting!

Joe and Scott will have a rock and mineral presentation for Sycamore elementary. It is a Science Fair with other presentations as well. The date is Saturday, January 21, 9-12AM.

The program for February will be an auction from things in the storage unit. The March program will be making grab bags for the show.

Field trips were great last year. We went on nine trips. A big thanks to Tom for doing a great job with the field trips. Tom said to make sure that he has your email address if you are interested in field trips.

Tom is looking at going to the Hansen Crabtree quarry in February. Castle Hayne for fossils is another trip being looked at. Looking at going further into the mountains for some field trips. They might become overnight trips because they are farther away.

SFMS is having a trip to the Bergin mine in February 25th and there is a \$10 fee. It's in Stanley County. Bergin has quartz crystals.

Joe asked if anyone could help by entering the email addresses we have collected so far to tell people about the show with a goal of maybe using the email list instead of mailing postcards.

The raffle for the door prize was won (after many tries) by Grant Schultz. He chose an agate slab.

Joe also said to make sure you reregister and pay your annual dues.

George made a motion to adjourn the meeting and Walt seconded. Meeting was adjourned at 8:30.

Scott LaBorde presented his Rockhound Lounge web site. It shows places to go on field trips and what you will find when you go there, great pictures.

Respectfully Submitted

Walt Milowic

So, after we take care of all of that, the program for the February meeting will be an Auction of mineral specimens from some old collections. The March program will be final Show organization and preparations and our Grab Bag assembly production line. I hope everyone is working on cleaning their donations for the Grab Bags.

Of course, the club is still in need of a Secretary. Please consider volunteering for this important position. The Secretary also is a member of the Executive Council or Board and has a vote in the decision making and direction of the TarHeel Gem and Mineral Club.

Thanks,

Rock On!

Joe Moylan

A Walk Through Geologic History– Part 1

Continued from page 1

Most of the rocks from the Precambrian have existed so long that they have been (1) eroded, (2) covered by more recent ocean sediments, or (3) heated, buried, reheated -- melted, eroded and reburied again and again. These processes reshaped the original sediments into metamorphic and igneous rocks now exposed in the Appalachian Mountains and surrounding hills.



Modern Stromatolites living in mounds on the tidal flats of Shark Bay, Australia.

The old Precambrian rocks would have remained deeply buried miles below the surface in the Southeast; however about 300 mya ago the North American continent collided with Africa (the Atlantic Ocean had yet to form). In some regions the collision thrust the Precambrian rock to the surface between faults, such as the Great Smoky Fault, while in other regions of the Southeast the Precambrian rocks were folded upwards without breaking and are now exposed in the center of mountain chains, as seen in the Blue Ridge Parkway of Virginia. This tremendous crash of ancient metamorphic rocks produced some of the best collecting localities we have in the Southeast in a province that the geologists called the "Blue Ridge", see diagram below.

One of the most well-known Precambrian rock from the Blue Ridge is the Murphy Marble, which has been mined at the town of Tate, Georgia and the surrounding area for over a century. Almost half of the marble monuments in Washington DC have come from the Murphy Marble belt. This marble was made by metamorphism of one of the first limestone deposits laid down in the Precambrian oceans of Earth. Other rocks forming in that early ocean where shale beds (mud deposits) and lava flows of basalt. The shales metamorphosed into beautiful garnets, staurolites, and kyanite crystals that can be found in the Blue Ridge. The early lava flows were also metamorphosed, and produced green epidote crystals and hornblende (amphibole) that can be collected throughout the

Blue Ridge. The actual crashing together of the two continents also brought up slivers of Precambrian peridotite from deep in the mantle which metamorphosed into corundum-bearing serpentines, producing the famous sapphire and ruby localities around Franklin, North Carolina.

The next geological province located to the east and south of the Blue Ridge is called the Piedmont, and it is composed of about half Precambrian metamorphic rocks, which have been subjected to granite intrusions that are younger than Precambrian. Stone Mountain and granite quarries at Elberton, Georgia are examples of these younger granite intrusions. The Precambrian rocks of the Piedmont were once a volcanic island chain that was metamorphosed when the African and North America continents collided. The Precambrian rocks in this belt contain native gold and make up Georgia's "gold belt", which runs from Rabun County down to the south-west through Cherokee and Barstow Counties. The gold found here was not in the original volcanic rocks, but the result of fractures that formed in the rocks and hot gold-bearing fluids that flowed into the fractures near the end of the Precambrian. The fluids cooled to form veins, lenses and stringers of quartz that contained gold. Most of the gold recovered from these Precambrian rocks is not directly from the veins, but from the quartz gravels that weathered from the veins over millions of years. Such weathered deposits of gold are common and mining operations that seek gold from old stream gravels are called "placer" operations.

Further to the south in the Coastal Plain Province, a second narrow band of faults in western Georgia raised an ancient Precambrian beach deposit into a high ridge called Pine Mountain. From this impressive quartzite ridge one can look down to the North on Calloway Gardens. Rain that falls in the Pine Mountain region sinks down through the faults to the south toward Warm Springs, Georgia. It becomes part of the artesian springs that were enjoyed by Franklin D. Roosevelt.



Cut through a 2.3 billion year old Precambrian stromatolite mound in Michigan

The largest region in North America where Precambrian sediments were not transformed into metamorphic rocks or melted into igneous magma is in Canada and in a small region along the USA-Canadian border especially in a belt that runs across the North Shore of Lake Superior including northern Michigan, though Wisconsin, Minnesota and as far west as Montana. In this region Precambrian mounds were formed by blue-green algae called Stromatolites. These one-celled organisms living on the ocean floor grew by photosynthesis, generating the first oxygen on Earth. This oxygen allowed higher animal life forms to exist and

ironically, the animal life turned around and ate most of the Stromatolites. Stromatolites are one of the longest living organisms on Earth, and although rare they still exist in many hot springs around the globe and thrive in the protective, hyper-saline tidal bays in Australia.

[Editor's Comment: This article was 1st published in the Cobb County GMS' Feb 2012 newsletter, Cobb-L-Stones. Professor Stewart will be writing a series of articles on earth history for future editions; if interested stay tuned at www.cobbcountymineral.org]

Agate

From Wikipedia

Agate is one of the most common materials used in the art of hardstone carving, and has been recovered at a number of ancient sites, indicating its widespread use in the ancient world; for example, archaeological recovery at the Knossos site on Crete illustrates its role in Bronze Age Minoan culture.

Etymology and history

The stone was given its name by Theophrastus, a Greek philosopher and naturalist, who discovered the stone along the shore line of the river Achates (Greek: Ἀχάτης) sometime between the 4th and 3rd centuries BC. Colorful agates and other chalcedonies were obtained over 3,000 years ago from the Achates River, now called Dirillo, in Sicily.



Door Prize picked by Grant Schultz - Agate Slab. Photo by G. Harris.

Formation and characteristics

Most agates occur as nodules in volcanic rocks or ancient lavas where they represent cavities originally produced by the disengagement of volatiles in the molten mass which were then filled, wholly or partially, by siliceous matter deposited in regular layers upon the walls. Agate has also been known to fill veins or cracks in volcanic or altered rock underlain by granitic intrusive masses. Such agates, when cut transversely, exhibit a succession of parallel lines, often of extreme tenuity, giving a banded appearance to the

section. Such stones are known as banded agate, riband agate and striped agate.

In the formation of an ordinary agate, it is probable that waters containing silica in solution—derived, perhaps, from the decomposition of some of the silicates in the lava itself—percolated through the rock and deposited a siliceous coating on the interior of the vapour-vesicles. Variations in the character of the solution or in the conditions of deposition may cause a corresponding variation in the successive layers, so that bands of chalcedony often alternate with layers of crystalline quartz. Several vapour-vesicles may unite while the rock is still viscous, and thus form a large cavity which may become the home of an agate of exceptional size; thus a Brazilian geode lined with amethyst and weighing 35 tons was exhibited at the Düsseldorf Exhibition of 1902. Perhaps the most comprehensive review of agate chemistry is a recent text by Moxon cited below.

The first deposit on the wall of a cavity, forming the "skin" of the agate, is generally a dark greenish mineral substance, like celadonite, delessite or "green earth", which are rich in iron probably derived from the decomposition of the augite in the enclosing volcanic rock. This green silicate may give rise by alteration to a brown iron oxide (limonite), producing a rusty appearance on the outside of the agate-nodule. The outer surface of an agate, freed from its matrix, is often pitted and rough, apparently in consequence of the removal of the original coating. The first layer spread over the wall of the cavity has been called the "priming", and upon this base zeolitic minerals may be deposited.

Many agates are hollow, since deposition has not proceeded far enough to fill the cavity, and in such cases the last deposit commonly consists of drusy quartz, sometimes amethystine, having the apices of the crystals directed towards the free space so as to form a crystal-lined cavity or geode.

On the disintegration of the matrix in which the agates are embedded, they are set free. The agates are extremely resistant to weathering and remain as nodules in the soil or are deposited as gravel in streams and shorelines.

TAR HEEL GEM & MINERAL CLUB, INC

Membership Application
2012

Date _____ Renewal New Membership

Applicant Name _____

_____ birth month

Additional Names _____ birth month

_____ birth month

_____ birth month

Address _____

Street City

State

Zip

Telephone (____) _____

E-Mail Address _____

Would you like to receive the newsletter via email rather than mail? YES NO

Would you like to be a volunteer in the annual club gem & mineral show? YES NO

Will you be an active participant on field trips and like to be notified about them? YES NO

Please check your interests –

	Applicant	additional members		
Mineral collecting	_____	_____	_____	_____
Fossil collecting	_____	_____	_____	_____
Gold smithing	_____	_____	_____	_____
Silver smithing	_____	_____	_____	_____
Wire wrapping	_____	_____	_____	_____
Cabbing	_____	_____	_____	_____
Faceting	_____	_____	_____	_____
Jewelry making	_____	_____	_____	_____
Other _____	_____	_____	_____	_____

**PLEASE RETURN THIS FORM WITH PAYMENT TO
TAR HEEL GEM & MINERAL CLUB, INC.
10609 CHELSEA DR. RALEIGH, NC 27603**

Annual dues are \$20.00 for the first member and \$5.00 for each additional family member over the age of 12.

UPCOMING SHOWS

February 25, 2012: Lakeland, FL. Imperial Bone Valley Gem, Mineral & Fossil Society, 8th Annual Gem, Mineral & Fossil Show & Sale; Sat: 10-4, First Presbyterian Church, 175 Lake Hollingsworth, Lakeland. Show contact: Jim Reed, 863-644-6665. [Email: rocks57@tampabay.rr.com](mailto:rocks57@tampabay.rr.com) <http://www.bonevalley.net>

February 29– March 1, 2012: Panama City, FL. Panama City Gem & Mineral Society. Bay County Fairgrounds, 2230 E. 15th St. Contact: Joseph Schings, 850-871-1846 or [e-mail: mojo3002@Comcast.net](mailto:mojo3002@Comcast.net)

March 2-4, 2012: St. Petersburg, FL - The Suncoast Gem & Mineral Society. 42nd Annual Gem, Jewelry & Mineral Show and Sale, Minnreg Building 6340 126th Ave. N., Largo, FL 33773. Hours: Fri & Sat 10-6, Sun 10-5. Free parking. Contact Bill Schmidt, Show Chair, 727 822-8279 or [e-mail: SGAMSGemshow@gmail.com](mailto:SGAMSGemshow@gmail.com). See <http://www.sgams.com/Shows/show.html>

Mar 9-11, 2012: Augusta, GA - Aiken Gem, Mineral & Fossil Society. 23rd Annual Aiken-Augusta Gem, Mineral and Fossil Show, Julian Smith Casino, 2200 Broad St. Hours: Fri & Sat 10am-7pm, Sun 10am-4 pm. Admission: \$3 Adult, children under 16 FREE with an adult. Information and Group Reservations: H. Kunis (706) 855-7357 <http://www.aikengmfs.org> or www.augustagemandmineralsociety.org.

March 16-18, 2012: Rome, GA. Valley and Ridge Gem and Mineral Show. Rome Georgia Mineral Society, Fri-Sat 10am-6pm; Sun 11am-5pm. The Forum, 2 Government Plaza, Rome, GA. Minerals, gems, fossils, jewelry, crystals, demonstrations, door prizes, exhibits. Show contact: Jose Santamaria 770.606.5700 ext 401 [Email: rogams.show@gmail.com](mailto:rogams.show@gmail.com) <http://rogams.wordpress.com/gem-and-mineral-show/>

March 24-25, 2012: Tampa, FL. "Fossil Fest 2011"; Tampa Bay Fossil Club; Florida State Fairgrounds, US 301 and I-4; Sat. 9-6, Sun. 10-4; fossils, artifacts, gems, minerals, shells, exhibits, "how to" seminars, kids' games, fossil mine, raffles, door prizes, silent auction; contact Barbara Fite, (813) 977-0892; [email: bfite@tampabay.rr.com](mailto:bfite@tampabay.rr.com); Web site: www.tampabayfossilclub.com

March 30-April 1, 2012: Orlando, FL- Annual show; Central Florida Mineral & Gem Society; Central Florida Fairgrounds; 4306 W. Colonial Dr.; Hours: Fri. 1-6, Sat. 10-6, Sun. 10-5. adults \$5, seniors \$2, students \$2, children and Scouts free. Contact Gordon Oakley (407) 592-4358; e-mail: cfmgsociety@gmail.com; Web site: www.cfmgs.org



Vugsites

The following are some links to Web-Sites that may interest some of our members:

<http://www.amfed.org/> / <http://www.amfed.org/sfms> These are the official sites for the organizing body that the Tar Heel Gem & Mineral Club is founded under. I would strongly urge all members to check them out on a regular basis.

http://www.amfed.org/sfms/lodestar_newsletter.html The SFMS Lodestar Newsletter

<http://www.carolinageologicalsociety.org/CGS/Home.html> This site provides numerous downloadable field-trip guide books, maps, and charts of the Carolinas. It will prove to keep any avid rock hound busy for years. Great Site!

http://www.ncminerals.com/ncmineralswebsite_files/page0011.htm And while we are on the subject, try this link. Its titled: Links of Interest to Rock hounds in NC; It will take you to a list of links for North Carolina gems and minerals.

<http://www.rocksforkids.com/> Just like the name says, A nice place to steer the younger members.

information & photographs of over 6300 specimens from the Glenn & Martha Vargas Gem & Mineral Collection.

<http://www.rockhoundlounge.com> Scott Laborde, a club member maintains his own web site that might be of interest to people collecting in and around Wake County.

http://www.msnbc.msn.com/id/29726500/ns/technology_and_science-science This site highlights a half dozen of the most recent significant fossil finds.

<http://appmodo.com/13971/mole-quest-for-the-terracore-gem-app-review-for-the-iphone-and-ipod-touch/> If you have an iphone or an ipod touch, this rock-hounding may be the game for you.

I would like to encourage all members of the THG&MC that maintain their own presence on the internet to send me a link to their site to be published in future Vugsites so that other club members may learn and enjoy the craft, the art, the interests that many of us have in common.

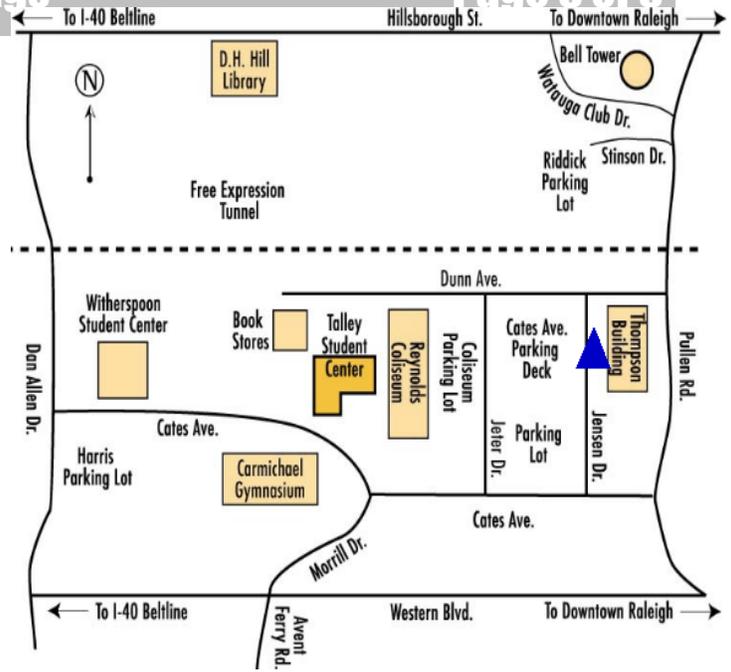
Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

Our Next Meeting is February 21, 2012 @ 7:30PM Thompson Building / NCSU Campus.

About Our Organization...

The Tar Heel Gem and Mineral Club was formed in 1974 as a nonprofit educational organization for people who enjoy the lapidary arts, earth sciences, and related subjects. The main objectives of the club are to investigate, preserve, and share knowledge of rocks, minerals, and precious stones, and to promote interest in mineralogy, paleontology, earth sciences, and lapidary techniques, among club members and among the general public. The club pursues these goals through publications, meetings, lectures, field trips, exhibits, demonstrations, and other activities.

Come and be a part of the Fun!



TAR HEEL GEM & MINERAL CLUB
10609 Chelsea Drive
Raleigh, NC 27603

