

# Tar Heel Tailings

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

## Special Interest Articles:

- Prez Sez
- Mohs scale of mineral Hardness
- Field Trip

## Individual Highlights:

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## Prez Sez By Cyndy Hummel

Welcome to the year of our 40th Annual show!

I would like to begin by thanking our new officers and volunteers. Our new officers for 2016 are Dan Cathey as VP and Melissa Whitfield as Secretary. We also have a new Chair volunteer for Hospitality at the show – Linda Searcy. Thanks for taking on these new jobs! Dan has already completed part of his job by scheduling the whole year with interesting programs. Look for a complete list in this newsletter.

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## The Mohs scale of mineral Hardness

From Mary Harbison

### What is Mohs Hardness Scale?

The Mohs scale of mineral hardness characterizes the scratch resistance of various minerals through the ability of a harder material to scratch a softer material. It was created in 1812 by the German geologist and

mineralogist Friedrich Mohs and is one of several definitions of hardness in materials science. The method of comparing hardness by seeing which minerals can scratch others, however, is of great antiquity, having been mentioned by Theophrastus in his treatise *On Stones*, c. 300 BC, followed by Pliny the Elder in

his *Naturalis Historia*, c. 77 AD.

The Mohs scale of mineral hardness is based on the ability of one natural sample of matter to scratch another mineral. The samples of matter used by Mohs are all different minerals. Minerals are pure substances found in nature. Rocks are made up of one or more minerals.

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**Tar Heel Gem & Mineral Club, Inc.**

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**We're on the Web!**

See us at:

[www.tarheelclub.org](http://www.tarheelclub.org)

**Program & Refreshments**

REFRESHMENT SCHEDULE:

Coordinator: Need Volunteer

January TBD

PROGRAM SCHEDULE:

January	Ken Carlson: Specimen Cleaning and Preparation
February	Patricia Weaver: Ediacaran Fauna of North Carolina
March	Grab Bags & Postcards
April	Potluck & Show discussion
May	Gary McCutcheon: Silversmithing
June	Vince Schneider: Triassic Basins and Their Fossils
July	Fred Booth: Geology Trip to Yellowstone, Wyoming
August	Ice Cream Social AND Auction
September	Scott LaBorde: Quartz Collecting
October	Grab Bags AND (short)
November	Elections & Thank You from The Club

Remember, the club will reimburse you for up to \$75 (bring your receipts to the treasurer).

**January Treasurer's Report**

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**January B-Day Members**

- Carl Bigness
- Laura Bottomley
- Marion Broadway
- Ken Carlson
- Jack Fried
- Cyndy Hummel
- Ryan Locki
- John Nigro
- Mary Obenchain
- Ryan O'Neal
- Christina Perry
- Cathy Pyhtila
- Greg & Connie Shay
- Grady L. Ware



Membership applications may be mailed to:

Tar Heel Gem & Mineral Club, Inc.

Attention: Treasurer  
10609 Chelsea Drive  
Raleigh, NC 27603

## Tar Heel Gem and Mineral Club, Inc. - November Meeting Minutes

Tuesday, November 17<sup>th</sup>, 2015

Attendees = 25

### Opening of Club Meeting:

Meeting was called to order by Cyndy at 7:42.

### Program:

We began by getting some snacks and watching our feature film:

"The Fire Below Us-Remembering Mount St. Helens." Shirley Green supplied the movie and we watched it for about 50 minutes. It was amazing how much energy was released when the volcano erupted.

### New Business:

The new registration form for current members to register each year is now ready on line. This will greatly help the registration process by making it easier to read members' information like email addresses.

### Old Business:

We then began with nominations for next year's officers.

Cyndy Hummel agreed to continue as president

Dan Cathey agreed to be the vice president

Melissa Whitfield agreed to be the Secretary

Corrinne Hummel agreed to continue as Treasurer

Our at-large members will be Linda Searcy and Bob Bendelow

A motion was made to accept the slate of officers as presented. The motion was seconded and carried by unanimous agreement.

### New Business:

Birthdays of members were acknowledged

Dan Cathey – He named his favorite minerals

New members were introduced.

Jesse Blackmon came along with his girlfriend Heather who is already a member.

Cathy visited and was interested because she teaches a cabochon class.

Susanne makes jewelry and thought the club would be fun to try out.

We then talked about T-shirts with Forest Green and Burgundy being the two choices. We voted and it was a tie again! Cyndy drew the deciding vote from a choice of two that were held behind the back of member George Harris. Burgundy won!

If anyone has any suggestions for additional wording on the shirt, you need to get your suggestions to Cyndy as soon as possible. One suggestion is to put the web address on the shirt.

Cyndy asked for a chair for the Hospitality Committee, or co-chairs

Linda Searcy agreed to be the chairman.

Melissa Whitfield asked if anyone knew of anything that we can do to automate the club or make things easier. Please let her know if you have any ideas for he web site that you would like to see also.

Mike Franklin talked about a new addition to the children's education portion of the show. It is a video microscope and should be very interesting at next year's show.

Next year we will have a big auction for members including quite a few geodes and some minerals.

Rock and Gem had an article on opals. There was a journal mentioned with some really beautiful pictures of opals.

### Door Prize:



Bob Bendelow won the door prize and chose some nice faceting rough.

He now owes us TWO articles for the next newsletter.

### Close of Meeting:

The meeting was adjourned at 9:20.

Respectfully Submitted

Walt Milowic,

Secretary, Tar Heel Gem and Mineral Club, Inc.

# Prez Sez

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The Treasurer is very happy about receiving the newly printed application forms. If you haven't renewed yet, visit the website to complete the form and mail or bring the completed form to the meeting with the annual dues. Be thinking about where you would like to help during the show. Sign-up sheets will be available at the January meeting. For the show, I do have some dealer cancellations. This could be an opportunity for a new dealer. If you know of any good dealers that are

available for our show date of April 1, 2 & 3, let me know. You can be their reference. T-shirts will be printed soon. We usually just print the logo and the year on the shirt. But if anyone has any ideas for something different, bring this to the meeting.

See you soon,  
 Cyndy Hummel  
 President,  
 Tar Heel Gem and Mineral Club, Inc.

## January Treasurer's Report

Sep. Ending /	
Oct. Beginning Balance	\$3,259.49
-----	
Deposits (+)	
No Deposits	\$0.00
-----	
Sub total	\$0.00
-----	
Checks Written (-)	
Misc expenses	\$57.83
Taxes (2014, 2015)	600.00
-----	
Sub Total	\$657.83
-----	
Oct. Ending /	
Nov. Beginning Balance	\$2,601.66
-----	
Deposits (+)	
Dealer deposits	\$3,719.00
Misc deposit	8.00
-----	
Sub total	\$3,719.00
-----	
Checks Written (-)	
Newsletter	\$138.08
-----	

Sub Total	\$138.08
-----	
Nov. Ending /	
Dec. Beginning Balance	\$6,190.58
-----	
Deposits (+)	
Dealer deposits	\$2,159.00
Membership deposit	170.00
-----	
Sub total	\$2,329.00
-----	
Checks Written (-)	
Fairground payment	\$2,200.00
EFMLS dues	203.00
December food	45.68
Year end misc rec't	433.14
-----	
Sub Total	\$2,881.82
-----	
Dec. Ending /	
Jan. Beginning Balance	\$5,637.76

Corinne Hummel  
 Treasurer,  
 Tar Heel Gem and Mineral Club, Inc.

## Field Trip Information

By Shirley Green

### Vulcan Quarry, Henderson, NC Field Trip

**When:**

January 16, 2016, Saturday from 9 to 1 pm. We must arrive at the quarry no later than 8:45am. for for the safe ty briefing. No Latecomers!! DO NOT ARRIVE LATE IF YOU WISH TO PARTICIPATE.

**Where:**

696 Greystone Rd., Henderson, NC 27537. We must all meet at the office by the gate for the quarry trip.

**Collecting:**

I have never been here so don't know the names of the minerals here. I do know it is a granite quarry.

**Requirements:**

- Children 9 and up are allowed must be supervised CAREFULLY by an adult or parent.
- Steel Toe Boots
- Safety Glasses
- Hard Hat

**Tools:**

- Sunscreen
- Bug spray - not sure if we will need or not
- Rock hammer
- 3 pound hammer or sledgehammer
- Backpack or bucket or both
- Newspaper to wrap your specimens in
- Plenty of fluids to drink
- Snacks
- Chisel or pry bar
- Long screwdriver
- Hand truck

**Who:**

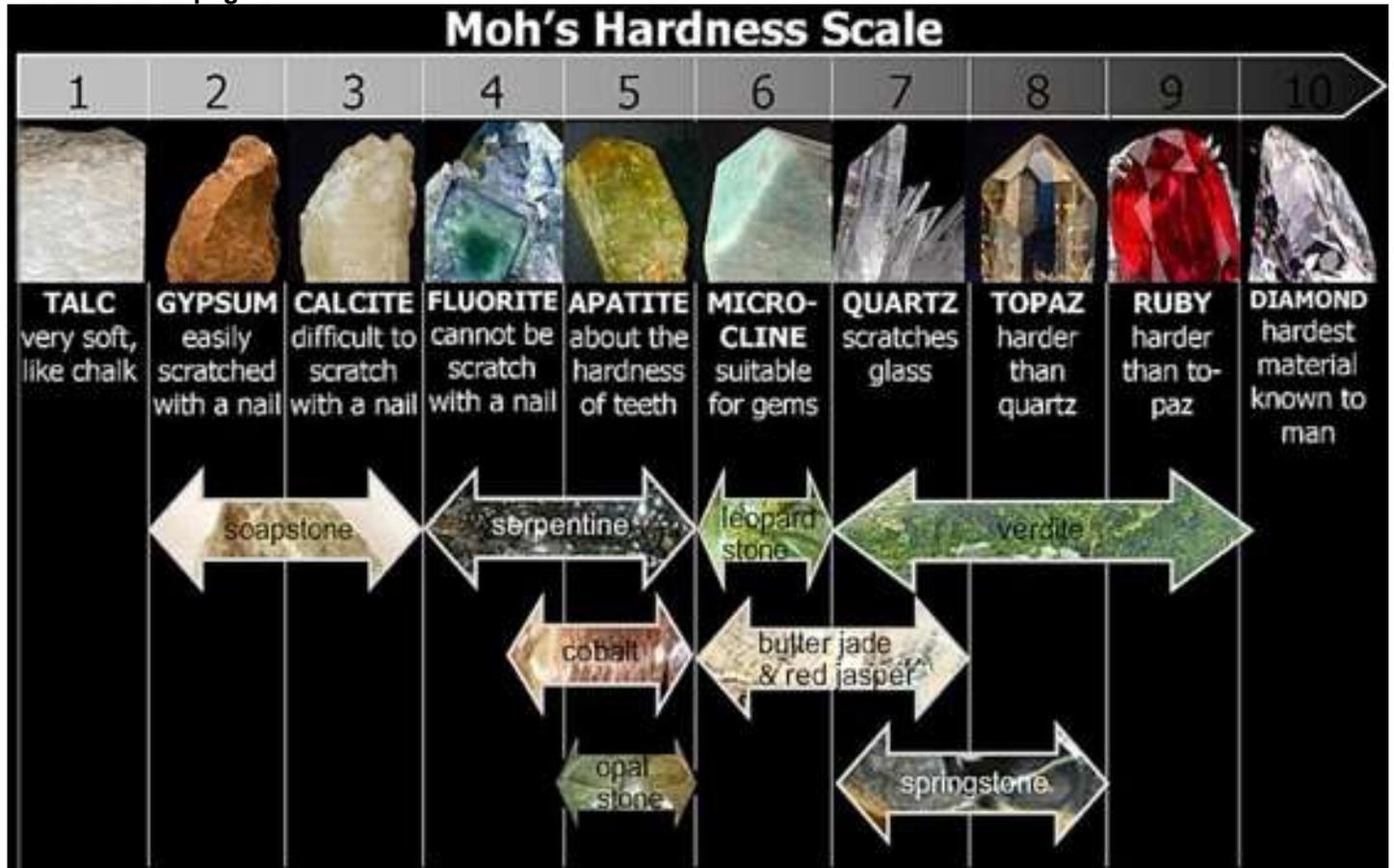
Please RSVP to Shirley. 919-848-1085 or [Richard60Green@yahoo.com](mailto:Richard60Green@yahoo.com)

**Directions:**

696 Greystone Rd., Henderson, NC 27537

## The Mohs scale of mineral Hardness

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### Making Hardness Comparisons

"Hardness" is the resistance of a material to being scratched. The test is conducted by placing a sharp point of one specimen on an unmarked surface of another specimen and attempting to produce a scratch. Here are the four situations that you might observe when comparing the hardness of two specimens:

1. If Specimen A can scratch Specimen B, then Specimen A is harder than Specimen B.
2. If Specimen A does not scratch Specimen B, then Specimen B is harder than Specimen A.
3. If the two specimens are equal in hardness then they will be relatively ineffective at scratching one another. Small scratches might be produced, or it might be difficult to determine if a scratch was produced.

4. If Specimen A can be scratched by Specimen B but it cannot be scratched by Specimen C, then the hardness of Specimen A is between the hardness of Specimen B and Specimen C.

### Mohs Hardness Testing Tips

- A list of minerals in order of hardness can be a handy reference. If you determine that a specimen has a hardness of Mohs 4 you can quickly get a list of potential minerals.
- Practice and experience will improve your abilities when doing this test. You will become faster and more confident.
- If the hardness of the unknown specimen is about 5 or less, you should be able to produce a scratch without much exertion. However, if the unknown specimen has a hardness of about 6 or

greater, then producing a scratch will require some force. For those specimens, hold the unknown firmly against the table, place the standard specimen against it, press firmly with determination, then holding pressure slowly drag the standard specimen across the surface of the unknown.

- Don't be fooled by a soft standard specimen producing a mark on a hard unknown. That mark is like what a piece of chalk produces on a blackboard. It will wipe off without leaving a scratch. Wipe your finger across the tested surface. If a scratch was produced there will be a visible groove. If marks wipe away then a scratch was not produced.

- Some hard materials are also very brittle. If one of your specimens is breaking or crumbling rather than scratching, you will have to be very careful while conducting the test. Testing tiny or granular specimens can be difficult.

- Some specimens contain impurities. If the results of your test are not visibly conclusive, or if the information from your test does not conform with other properties, do not hesitate to do the test again. It is possible that a small piece of quartz (or another impurity) was embedded in one of your specimens.

- Don't be wimpy! This is a very common problem. Some people casually rub one specimen back and forth against another and then look for a mark. That is not how the test is done. It is done with a single, determined motion with the goal of cutting a scratch.

- Be careful. When you hold the unknown specimen against the table, position it so that the known specimen will not be pulled across one of your fingers.

- This test should be done on a lab table or work bench with a durable surface or a protective covering. Don't do this type of testing on fine furniture.

- Test tiny particles or grains by placing them between two pieces of an index mineral and scraping them together. If the grains are harder

than the index mineral scratches will be produced. If the grains are softer they will smear.

### Hardness Variations in a Single Mineral

Most minerals have a fairly consistent hardness. For example, the hardness of calcite is always about 3. However, some minerals have a range of hardness.

Minerals that are part of a solid solution series can change in hardness as the composition varies. Atomic bonds between some elements are stronger than others. An example is garnet which has a composition of  $X_3Y_2(SiO_4)_3$  where X can be Ca, Mg or Fe and Y can be Al, Fe or Cr. Garnets with different compositions have different hardness. Garnets range in hardness from 6.5 to 8.

Minerals such as kyanite have different hardness in different directions. Kyanite is a mineral that frequently occurs in blade-shaped crystals. These crystals have a hardness of about 5 if they are tested parallel to the long axis of the crystal and a hardness of about 7 if they are tested parallel to the short axis of a crystal.

Weathering can also influence the hardness of a mineral. Weathering usually changes a mineral's composition with the weathering product usually softer than the original material. When testing the hardness or streak or other property of a mineral, the best way to test is on a freshly broken surface that has not been exposed to weathering.

### Some Notes on Spelling

Mohs Hardness Scale is named after its inventor, Friedrich Mohs. This means that an apostrophe is not needed when typing the name of the test. "Moh's" and "Mohs' " are incorrect.

Google is really smart about these names. You can even type "Moe's Hardness Scale" as a query and Google knows to return results for "Mohs Hardness Scale".

Read more at <http://www.geologyin.com/2014/05/the-mohs-scale-of-mineral-hardness.html>

## UPCOMING SHOWS

**April 1-3, 2016: Raleigh, NC - 40<sup>th</sup> Annual Capital Area Gem & Mineral Show.** Tar Heel Gem and Mineral Club, Inc. Kerr Scott Building, NC State Fairgrounds, Raleigh, NC. CELEBRATING THEIR 40TH YEAR at the State Fairgrounds, this show is sponsored by the Tar Heel Gem & Mineral Club and includes 29 dealers. The Club Demonstration area includes club members faceting, capping, chainmaking, wirewrapping, bead stringing and gem tree creating. Club members will also provide lectures about minerals and demonstration of gem polishing, geode cutting plus associated hobbies. The Hospitality area sells grab bags with mineral specimens. Some could contain a faceted gem. Tickets for the geode raffle, door prizes and rock candy are in this area. Buy a rock at the Geode booth and be the first to see what is inside. The on-going Silent Auction has new items every hour. Dealers provide minerals, fossils, finished jewelry, gemstones, findings and beads for sale.. Hours: Fri 3-8; Sat 10-6; Sun 10-5. Admission: Free and Free Parking. Contact: Cyndy Hummel; 919-779-6220; [mchummel@mindspring.com](mailto:mchummel@mindspring.com); [www.tarheelclub.org](http://www.tarheelclub.org);

**March 11-13, 2016: Augusta, GA – 28th Annual Aiken-Augusta Gem, Mineral & Fossil Show.** Sponsoring Clubs: Aiken Gem, Mineral and Fossil Society and Augusta Gem and Mineral Society. Julian Smith Casino / 2200 Broad St. / Augusta GA. Vendors that offer a wide variety of jewelry, rare fossils and mineral specimens, gems of all colors shapes & sizes, lapidary and much more. Member Show Cases, Lapidary Demonstrations, Educational Resources, Grab Bags, Treasure Dig, Geode Cutting, Mineral Panning, Hourly Door Prizes and a Grand Prize that will be awarded at the end of the show on Sunday Admission: \$3 per adult or \$5 Weekend pass-Children under 12 Free with an Adult. Hours: Fri & Sat 10AM-7PM / Sun 11AM-5PM. Co-Chair: Richard McNutt and Chris Glass; Show Contact: Chris Glass 706-284-9239; [www.aikengmfs.org](http://www.aikengmfs.org); [www.agam.club](http://www.agam.club).

**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](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](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](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.  
[http://diamonddanpublications.net/index\\_files/page0009.html](http://diamonddanpublications.net/index_files/page0009.html) Diamond Dan's Mini Miner's Monthly

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  
January 19, 2016 @ 7:30PM  
Thompson Building / NCSU Campus.**

***About Our Organization...***

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

**Come and be a part of the Fun!**



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

