

Tar Heel Tailings

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

Special Interest Articles:

- Prez Sez
- Show Information
- Show Information for New Members
- Diamonds offer window into inner workings of Earth's mantle

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Prez Sez By Daniel Cathey

Make sure you come to our February meeting to see Tom Todaro give his presentation on mineral collecting safety. Tom has been working hard this past couple of years to learn as much as he can about quarry and mine safety. He has been through several safety programs along with some of the club members. This is a topic that should be at the top of all our concerns.

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SHOW INFORMATION By Cyndy Hummel

Sign up to volunteer for different booth areas at the January meeting!!!!

You should wear your nametag at all times during the show. You may not be allowed entrance prior to show hours without your 2017 nametag.

Set-up time is 5 PM on Thursday, March 26th at the fairgrounds, Kerr Scott building. Tables and chairs should already be in place. Expect to paper tables for each club booth area; Silent Auction, Geode, Hospitality, Demonstration and Display Case Tables and haul boxes and assemble display cases. We are usually finished by 8PM. The more helping hands we have,

the sooner we can finish! Friday morning each club booth area will remove items from boxes and organize the areas to their preference. The dealers set-up early Friday morning beginning at 8AM. Club members also set up their own demonstration / sales area and display case on Friday no earlier than 8AM.

Breakfast snacks and

coffee will be available all three mornings. The pre-ordered Panera supper on Friday will be delivered at 5PM. Lunch is provided on Saturday & Sunday for club members who are currently **volunteering** at the show, no dealers. The purpose of these meals is to feed our own volunteers who work all day so they need not worry about their meals.

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Tar Heel Gem & Mineral Club, Inc.

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Raleigh NC 27603

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We're on the Web!
See us at:
www.tarheelclub.org

Program & Refreshments

REFRESHMENT SCHEDULE:

Coordinator: Loretta Turcotte
rosevilla@nc.rr.com
(919) 263-8523

February TBD

PROGRAM SCHEDULE:

February	Shirley Smith and Tom Todaro: What to Bring on a Collecting Trip and Safety Concerns
March	Grab Bags and Postcards
April	Potluck and Show Discussion
May	Linda Searcy: Faceting Stones – My Experiences
June	Rachel Smith – NC Museum of Natural Sciences: Meteorites and Search for Life in the Solar System
July	Cathy Young – Mid-Atlantic Nature and Fossil Adventures: Fossil Collecting in the Mid-Atlantic
August	Ice Cream Social
September	Fletcher McDonald-Micro-mineral Collecting and Preparation
October	Nominations, Grab Bags
November	Elections

Remember, the club will reimburse you for up to \$85 (bring your receipts to the treasurer).

February Treasurer's Report

Dec. Ending /	
Jan. Beginning Balance	\$11,664.07

Deposits (+)	
Dealers*	\$1,412.00
Members	780.00

Sub total	\$2,192.00

Checks Written (-)	
Newsletter	\$106.22
Speaker fee	75.00
Meeting food 3 mons	255.00

Sub Total	\$436.22

Jan. Ending /	
Feb. Beginning Balance	\$13,419.85

*Show Items

February B-Day Members

- Nola Bohl
- Danielle Cozart
- Greg Dillon
- Michaela Dillon
- Tom Gallian
- Kenny Gay
- Pam Hines
- Susan Korn
- Victor Krynicki
- Tina Mitchell
- Mike Shore
- Richard Turcotte
- Kathy Williams
- Anita Young



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. - January Meeting Minutes

Tuesday, January 17, 2017

Attendees = ~38

Opening of Club Meeting:

Dan Cathey, President, opened meeting at 7:30pm

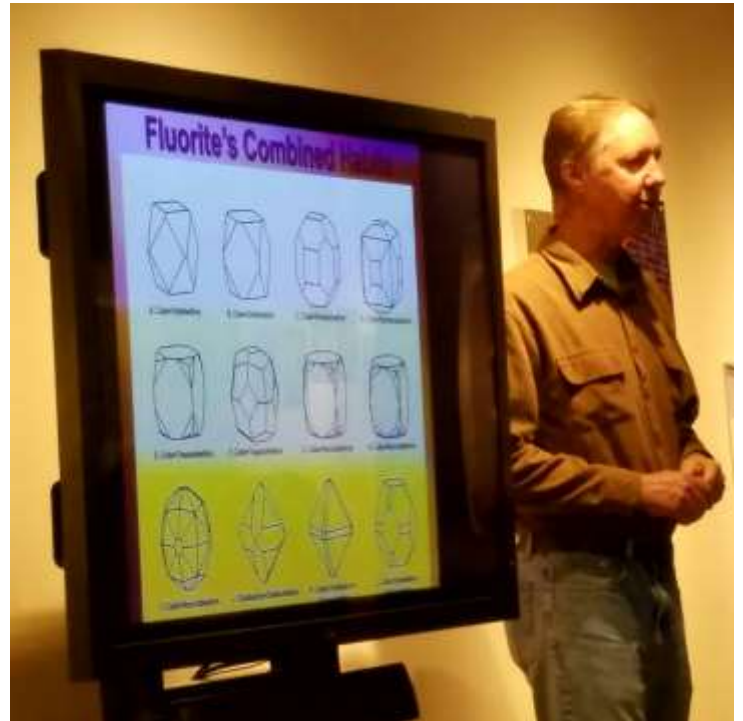
Old Business:

Newsletter, monthly field trip notifications – check box on application form.

New Business:

Outreach committee to be created.

Birthdays announced



Program:

Jeff Schlottman of Crystal Perfection – Crystal Perfection: The World of Fluorite, 7:40pm – 8:30pm

Refreshments:

Loretta brought in delicious Chinese (all of which she cooked) and cakes ... suggestion recommended that members eat before or during program presentation, especially if there is hot food.

Supplies needed - plastic utensils and napkins

Door Prize:

The door prize was won John Nigro.

Close of Meeting:

The meeting closed at 8:55pm.

NOTE:

I will not be at the February meeting since I will be out of town for several weeks – someone will need to be asked to take minutes.

Respectfully Submitted

Linda Searcy,

Secretary, Tar Heel Gem and Mineral Club, Inc.

Prez Sez

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Please make sure that you volunteer for our Annual Show this coming March. The more people that volunteer the easier it is on everyone. The Annual show is how we generate funds to give away to various charities, including the great weeks to Wildacres & William Holland for a lucky show volunteer. The minimum time needed for a chance at these prizes is 8 hours of donated time at the show. Please either sign up at the meeting or contact the chairperson directly to volunteer.

We will be packing grab bags at our March meeting and bring in what you can from your personal stash to put in the

grab bags. If you are like me at all you have a yard full of possible items to donate for the bags or for the silent auction.

For our 2018 show we have some changes. Gary McCutchen will serve as our Dealer Chair and Jack Fried will serve as Show Chair. I am sure that these gentlemen will do a fine job.

Most Sincerely,

Daniel Cathey

President,

Tar Heel Gem and Mineral Club, Inc.

SHOW INFORMATION

Continued from Page 1

Water, soda, coffee and tea will be provided for both dealers and club members throughout the three-day period. Sunday evening is pack-up and takedown for dealers and the club. Display cases are disassembled and wrapped in the table paper. Each booth inventories and boxes their items. Everything is then carefully placed in the storage trailer or rental unit.

Show hours for customers are -

Friday, March 31 3PM – 8PM

Saturday, April 1 10AM – 6PM

Sunday, April 2 10AM – 5PM

Remember, ENJOY the show. This is a rewarding and exciting time!!!

Show Information for New Members

By Cyndy Hummel

Hello There,

I see we have a lot of new club members. Welcome to the group. You may have heard about the annual Rock & Gem show. If not, sit back and I will tell you all about it.

The annual show at the Fairgrounds has free parking and free admission. As you enter the double set of doors of the Kerr Scott building, you approach the Hospitality booth. This area is responsible for the daily door prize tickets, grab bag sales, club membership forms, free magazines and other literature. Knowledgeable club members identify items in the grab bags and answer general questions about the show and club. This is a good place for new members to learn and share their enthusiasm for the hobby with the general public. This area also hosts different groups such as local museums.



Directly behind the Hospitality area are display cases for club members to spotlight their talents and discoveries. Minerals, fossils, silver, gold and wire wrapped jewelry, cut and polished gems, and

slabs of rock that all combine to create our fascinating hobby are reflected behind glass.



As you move around the room, listen for the dulcet tones of saws cutting through hard rock. The Geode booth along the right hand wall is very popular with customers. Indeed, the same people purchase geodes year after year. One never knows what is inside each hollow or solid sphere until it is sliced open. In this area, there is a display of beautiful geodes that have been cut over the years. Knowledgeable club members operate the saws, clean, wrap and bag the geodes. Be sure to quiz them on how geodes are formed.



The Silent Auction is located on the back wall to the right. This is where children and adults alike can find treasures at bargain prices. Items such as jewelry, minerals, fossils, faceted gemstones and slabs of rock are put up for auction for an undisclosed amount of time. Each item has a paper listing the name of the item and location of origin in the case of a mineral or fossil. The bidder places their name and a dollar amount on a blank line and steps away from the bidding table. The next person places a higher bid on the next line. When time is called, the last person on the list is the lucky winner.



Along the left back wall is where our club's talent shines, literally. This is the Demonstration/Sales area where club members showcase their hobby/addiction. At any given time you will see faceting, capping, wire wrapping, gold and silver smithing and gem tree creating. Be sure to come view our specialties and ask plenty of questions about how we do what we do.



Upstairs is where we keep the goodies to eat. Hot coffee, soft drinks and snacks can be found at differing times throughout the weekend. Club members are greatly encouraged to bring homemade tasty treats. This area is for current club members and dealers ONLY. Current nametags must be worn.

Set up for the show is Thursday night. Set up involves papering the club area tables, unloading boxes of merchandise for the Hospitality, Geode and Silent Auction areas and assembling the display cases. Club members set up their own space in the demonstration area and fill their display case on Friday morning.

As you can see there are many areas that club members can participate in during the show. I hope you will join us March.

I hope you will join us at the show.

Cyndy Hummel

Large, rare diamonds offer window into inner workings of Earth's mantle

By E. M. Smith, S. B. Shirey, F. Nestola, E. S. Bullock, J. Wang, S. H. Richardson, W. Wang.



This is an assortment of diamond offcuts used in the study. The largest is 9.6 carats. These diamonds could be analyzed by destructive means (polishing to expose inclusions) whereas many other diamonds studied were polished gemstones that were only borrowed and studied non-destructively.

Credit: Photo by Evan Smith; © GIA

Breakthrough research led by GIA Postdoctoral Research Fellow Evan Smith examines diamonds of exceptional size and quality to uncover clues about Earth's geology.

The researchers studied the unique properties of diamonds with similar characteristics to famous stones such as the Cullinan, Constellation and Koh-i-Noor to advance our understanding of Earth's deep mantle, hidden beneath tectonic plates and largely inaccessible for scientific observation. The study is published in the most recent issue of *Science* magazine.

"Some of the world's largest and most valuable diamonds, like the Cullinan or Lesotho Promise, exhibit a distinct set of physical characteristics that have led many to regard them as separate from other, more common diamonds. However, exactly how these diamonds form and what they tell us about the Earth has remained a mystery until now," explains Dr. Wuyi Wang, GIA's director of research and development, and an author of the study.

Large gem diamonds like the Cullinan have a set of physical characteristics that distinguish them from other kinds of diamonds. The new research shows these Cullinan-like gems sometimes have small metallic inclusions -- or internal characteristics -- trapped within them. The metallic inclusions

coexist with traces of fluid methane and hydrogen. In addition to the metallic inclusions, some of these exceptional diamonds contain mineral inclusions that show the diamonds formed at extreme depths, likely within 360-750 km (approximately 224-466 miles) in the convecting mantle. This is much deeper than most other gem diamonds, which form in the lower part of continental tectonic plates at depths of 150-200 km (approximately 93-124 miles).

"This new understanding of these large, type IIa diamonds resolves one of the major enigmas in the study of diamond formation -- how the world's largest and most valuable diamonds formed," says Smith. "The composition of the inclusions, however, provides the story."

The metallic inclusions are a solidified mixture of iron, nickel, carbon and sulfur, also containing traces of fluid methane and hydrogen in the thin tiny space between the metallic phases and the encasing diamond. Pure carbon crystallized in this mix of molten metallic liquid in Earth's deep mantle to form diamonds. Small droplets of this metallic liquid were occasionally trapped within the diamonds as they grew. During cutting and polishing, parts of the diamond that contain inclusions are often cut off or polished away to craft exquisite polished gems with minimal flaws. These cut diamond pieces are not normally available for research, but because of GIA's unique position as an independent, nonprofit research organization, Dr. Smith and his coauthors were able to study the inclusions for this investigation.

"Previous experiments and theory predicted for many years that parts of the deep mantle below about 250 km depth contain small amounts of metallic iron and have limited available oxygen. Now, the metallic inclusions and their surrounding methane and hydrogen jackets in these diamonds provide consistent, systematic physical evidence to support this prediction," explains Smith.

Though the extent of metal distribution is uncertain, this key observation has broad implications for understanding the behavior of the deep Earth, including the recycling of surface rocks into the convecting mantle, and the deep storage and cycling of carbon and hydrogen in the mantle through geologic time.

References: Gemological Institute of America. "Large, rare diamonds offer window into inner workings of Earth's mantle." ScienceDaily. ScienceDaily, 15 December 2016.

<www.sciencedaily.com/releases/2016/12/161215143124.htm>.

UPCOMING SHOWS

March 31 - April 2, 2017: Raleigh, NC – 41st Annual Capital Area Gem & Mineral Show. Tar Heel Gem and Mineral Club, Inc. Kerr Scott Building, NC State Fairgrounds, Raleigh, NC. The show is sponsored by the Tar Heel Gem & Mineral Club and includes 29 dealers. The Hospitality area sells grab bags with mineral specimens. 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; www.tarheelclub.org;

February 25–26: Jackson, MS - 58th Annual Gem, Mineral, Fossil and Jewelry Show. Sponsored by the Mississippi Gem and Mineral Society (MGMS). Sat 9–6/Sun 10–5 at the Mississippi Trade Mart on the State Fairgrounds, Jackson, Mississippi. Adults \$6, students \$3; Scouts and Leaders in Uniform \$2; Children 5 and under, free. Info at rock2lanes@gmail.com or www.missgems.org.

March 11-13: Augusta GA - 29th Annual Gem, Mineral & Fossil Show. Co-sponsored by the Aiken Gem, Mineral and Fossil Society and the Augusta Gem & Mineral Society. Fri & Sat 10–7/Sun 11–5. Julian Smith Casino / 2200 Broad St. / Augusta GA. Admission: \$3 per adult or \$5 Weekend pass; children under 12 FREE with an adult. Chair Richard McNutt www.aikengmfs.org or agam.club.

Vugsites

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

<http://www.tarheelclub.org> / <https://www.facebook.com/tarheelgemandmineralclub/> These are the official sites for the Tar Heel Gem & Mineral Club. I would strongly urge all members to check them out on a regular basis.

<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.

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.

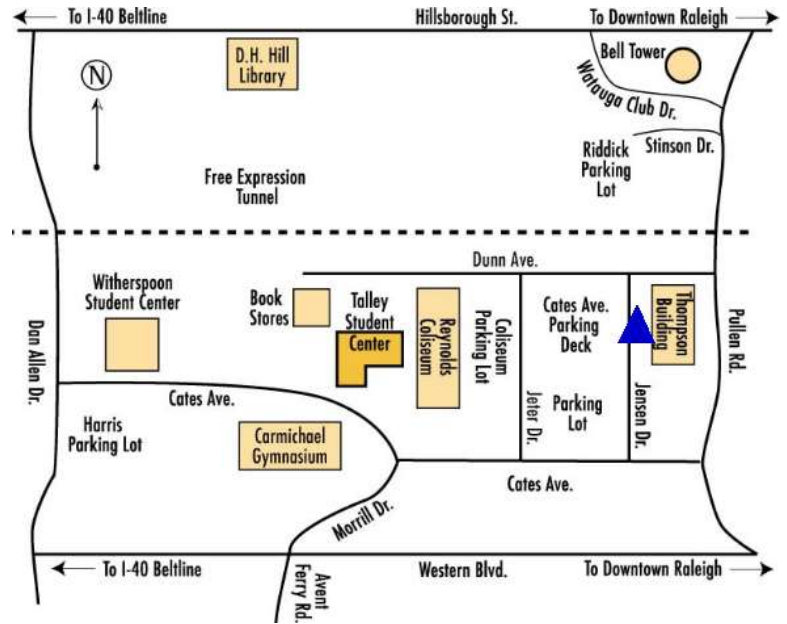
Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

**Our Next Meeting is
February 21, 2017 @ 7:30PM
Thompson Building / NCSU Campus.**

About Our Organization...

The Tar Heel Gem and Mineral Club, Inc. 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

