

Tar Heel Tailings

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

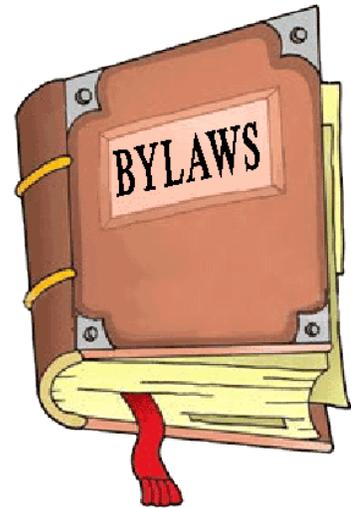
President's Report - Tar Heel Gem & Mineral Club, Inc.

Hello All,

Well the summer is just about upon us as well as the heat, so I hope that you all keep hydrated and as cool as possible in the upcoming months.

At our last meeting we had a spirited discussion about a possible amendment to the By-laws,

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Special Interest Articles:

- President's Report
- Apatite
- Pearl; Alexandrite; Oligoclase
- 2014 THGMC Show Date (See Upcoming Shows)

Individual Highlights:

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APATITE

By Michael Troutman

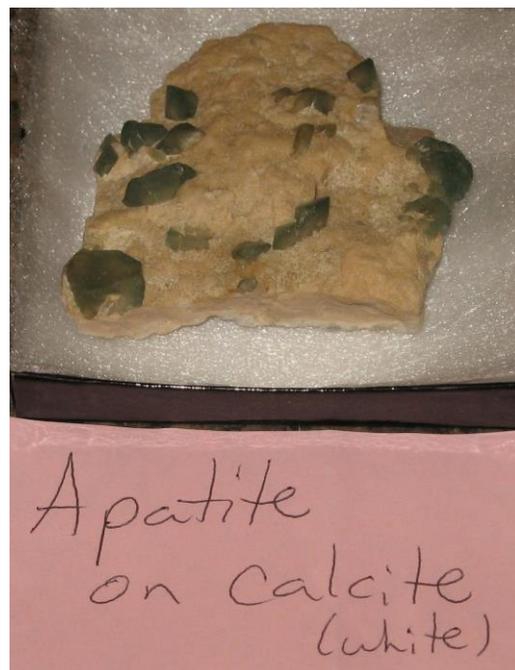
Apatite is the "group name" for crystal forming, phosphate bearing minerals. Typically, these minerals include chlorapatite $\text{Ca}_{10}(\text{PO}_4)_6(\text{Cl})_2$, fluorapatite $\text{Ca}_{10}(\text{PO}_4)_6(\text{F})_2$, and hydroxylapatite $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$. I should be noted that the IMA (International Mineralogical Association), recently changed the scientific naming of these minerals to increase the ease of cataloging and indexing. The new scientific mineral names are Apatite-(CaF) [instead of Fluorapatite], Apatite-(CaCl) [instead of

Chlorapatite], and Apatite-(CaOH) [instead of Hydroxyl-Apatite].

There are two rare members of the apatite group, a strontium-rich

member, Apatite-(SrOH) that has the chemical formula is $(\text{Sr},\text{Ca})_5(\text{PO}_4)_3(\text{OH},\text{F})$, and Carbonate-Apatite

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

Program & Refreshments

REFRESHMENT SCHEDULE:

Coordinator: Need Volunteer

| | |
|-----------|------------------|
| June | Linda Searcy |
| July | |
| August | Ice Cream Social |
| September | Walt Milowic |
| October | Hummels |
| November | |

PROGRAM SCHEDULE:

| | |
|--------|-------------------------------|
| June | Vince Schneider, Paleontology |
| July | Doris Hall, NC Archives |
| August | Ice Cream Social |

Please Contact Mike Troutman at 919.676.3161 to volunteer. Remember, the club will reimburse you for up to \$75 (bring your receipts to the treasurer).

2013 Show Treasurer's Report

| | |
|---------------------------|-------------|
| ===== | |
| Silent Auction | |
| Income Deposit | \$457.55 |
| No Expenses | |
| ----- | |
| Total Cleared | \$457.55 |
| ===== | |
| Hospitality Booth | |
| Income- Deposit | \$1,579.00 |
| Minus startup money | (47.00) |
| Minus postage for drawing | (6.02) |
| ----- | |
| Total Cleared | \$1,525.98 |
| ===== | |
| Geode Booth | |
| Income Deposit | \$5,052.75 |
| Startup money | (310.00) |
| Geodes & etc. | (3,065.48) |
| ----- | |
| Total Cleared | \$1,677.27 |
| ===== | |
| Dealers | |
| Income Deposit | \$18,161.00 |
| Expenses | (16,322.02) |
| ----- | |
| Total Cleared | \$1,838.98 |
| ===== | |
| Detailed Expenses | |
| NC State Fair | \$12,473.00 |
| N & O advertising | 1,081.71 |
| INDY advertising | 497.00 |
| Postage | 825.00 |
| Tires for trailer | 200.00 |
| IMP flyers, etc. | 201.23 |
| Upstairs Food | 563.41 |
| Misc. ADJ | 480.67 |
| ----- | |
| Total Expenses | \$16,322.02 |
| ===== | |
| Grand Total Cleared | \$5,499.78 |
| ===== | |

June B-Day Members

Andrew Frazer
Cleo Gallian
Eleanor Maness
Preston Maynard
Tim Milowic
Rachael Troutman
Angie Tunney
Kay Kimball



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. - May Meeting Minutes

Tuesday, May 20th, 2013

Attendees = 28

Opening of Club Meeting:

At 7:35 PM Jack Fried called the meeting to order and welcomed newcomers/members to our meeting.

Old Business:

Jack then noted Nancy Holland requires a minimum of 2 assistants for the week of the next THG&MS Show to serve as runners, shopping, cooking, loading, unloading and in general ride herd on the cats. Thanks going out to George Beck for help up and off loading supplies, food, etc.

Jack next accepted a brief summary of funding from the treasurer.

Jack continued by reminding all that we need volunteers to bring refreshments for the club meetings. The schedule is included below:

| Refreshments | |
|--------------|------------------|
| Month | Volunteer |
| 18-Jun | Linda Searcy |
| 16-Jul | |
| 20-Aug | Ice cream Social |
| 17-Sep | Walt Milowic |
| 15-Oct | Hummels |
| 19-Nov | |

Jack next brought up the subject (which took the majority of the club's time) of amending the bylaws to include the statement: The THG&MC Inc. expects a member's responsibility to the club to include volunteering for a minimum of one duty per year and a request for vote by attending membership and the next possible regular club meeting. This proposed amendment saw some vigorous opposition from some attending members and the spirited debate was concluded with a motion to table the proposal for now. Jack then made a request to the club membership. He asked all of us to write down their thoughts and suggestions on how best to get "active" volunteers for the various club functions and to bring their

President's Report

Continued from page 1

“.1. Section V. MEMBERSHIP, to add “Subsection F., to read as “The Club expects a members responsibility to include volunteering for a minimum of, at least, one duty per year.” It was tabled for this month's meeting. As is with all democratic entities, we abide by the majority. If not interested in the idea, vote Against. If interested, then Yes. It is as easy as that. We can also bring up alternative ideas during the discussion. It's that easy. Since our By-Laws state that only members present at the meeting may vote, please try to attend this month's meeting to do so.

We will be having a program this month from Vince Schneider, curator in paleontology. So I hope to see you there.

Since our program was postponed last month we put together an auction that went quite well. I am sure that a lot of members purchased some really nice stuff. I hope we will have another one soon, but with prior notice.

ideas and suggestions to the next regular club meeting.

New Business:

Clare Anderson next spoke for the program committee and brought up the subject of remuneration for presentations to the club by outside experts and organizations. I was suggested that “free” presentations would be preferable but defraying the cost of transportation and lodging for presenters would not be out of line.

Next, Clare spoke about the up coming program presenters for our club including: Vince Schneider, curator in paleontology, scheduled for June and Doris Hall from the North Carolina Office of Achieves and History for July.

At ~8:45, Jack paused the meeting for refreshments.

At ~9:00, the meeting was reconvened for drawings and the gem, rock and mineral auction:

Drawing for the THG&M Show Volunteers to Wildacres Retreat:

| | |
|----------------|---------------------------|
| Winners: | Beth Heath |
| | Mike Franklin |
| 1st Alternate: | Corrine Hummel (declined) |
| 2nd Alternate: | Bob Bendelow |
| 3rd Alternate: | Debbie Muller |
| 4th Alternate: | Greg Dillon |

Door Prize:

The door prize was won by Mike Troutman who chose a beautiful piece of green apatite. As a reminder, if you happen to win the door prize, please compose a short article for publication in our newsletter on what you won.

Auction:

The auctions for gems, minerals, rocks etc. went off successfully and many happy customers went away with some excellent specimens.

Meeting Close:

~9:54 marked the close of the THG&MC by executive mandate as the building's staff wanting to go home.

Respectfully Submitted

Michael Troutman, Secretary, Tar Heel Gem and Mineral Club, Inc.

We have filled in our roster of refreshments pretty well now, however we still need a few more months covered. So please think about volunteering.

I would like to thank Emily Carabello for donating some fossils for our monthly raffle, to those who volunteered to help Nancy with next year's food for the show. And to Julie Niederkorn for finding the great vein of Pyrite and Bob Bendelow for his tedious work in excavating them at the Glendon Dig. All that attended had a wonderful Time.

In closing, I hope we see you at this month's meeting and check out our newsletter for all the upcoming shows.

Jack Fried,

President, Tar Heel Gem and Mineral Club, Inc.

APATITE

Continued from page 1

(or Carbonate-rich Apatite) that has the chemical formula of $Ca_5(PO_4,CO_3)_3(OH,F)$.

Apatite may be found in igneous, metamorphic and sedimentary rocks. Apatite crystals are formed and found frequently in old hydrothermal vents, in pegmatites and veins. Nice specimens of apatite crystals are typically short to long hexagonal prisms or low pyramids but apatite can also be found in thick and tabular sheets, columns, globular masses, acicular masses (radiating mass of

slender, needle-like crystals), as well as in enormous ground deposits. The largest deposits of this mineral are found in the sedimentary "phosphate rocks", which are mined to produce phosphate fertilizer. In fact, apatite bearing rock is primarily used as a source of phosphorous by the fertilizer industry and is used in the United States to supplement the nutrition of our agricultural crops.

Apatite holds a place as an index mineral of Mohs hardness scale with a hardness of five.

Physical Properties of Apatite

Color: Transparent to translucent in green, yellow, blue, violet, pink and brown.

Crystal System: Hexagonal dipyramidal

Cleavage: Poor Indistinct at [0001] and [1010]

Fracture: Conchoidal and may be uneven

Hardness: 5 Mohs Scale

Luster: Vitreous to subresinous

Streak Test: White

Specific Gravity: 3.19 ± 3

Optical Properties: Double refractive and uniaxial negative

Refractive Index: 1.636 ± 0.002

June 2013 Treasurer's Report

| | | | | | |
|------------------------|------------|-------------------------|-------------|------------------------|------------|
| Jan. Ending / | | Feb. Ending / | | Mar. Ending / | |
| Feb. Beginning Balance | \$8,001.59 | Mar. Beginning Balance | \$6,395.07 | Apr. Beginning Balance | \$8,965.95 |
| ----- | | | | | |
| Deposits (+) | | Deposits (+) | | Deposits (+) | |
| Dealers | \$230.00 | Members | \$320.00 | Member | \$20.00 |
| Dealers | 250.00 | Fri Supper Food | 30.00 | Show food | 10.00 |
| Members | 155.00 | Raffle | 40.00 | Upstairs food | 2.45 |
| Members | 170.00 | Silent Auction | 457.55 | Auction rocks | 244.00 |
| Members | 50.00 | Geode Booth | 5,052.75 | Cab machine | 1,000.00 |
| Members | 190.00 | Unused startup cash | 47.00 | ----- | |
| Ring Raffle | 25.00 | Members | 70.00 | Sub total | \$1,276.45 |
| Show Food | 30.00 | Hospitality Booth | 1,579.00 | ----- | |
| ----- | | | | | |
| Sub total | \$1100.00 | Dealers | 9,001.00 | Checks Written (-) | |
| ----- | | | | | |
| Checks Written (-) | | Dealers | 1,150.00 | N & O advertising | \$1,081.71 |
| EFMLS Dues | \$365.25 | Meeting Food Refund | 7.51 | Hos Booth expense | 6.02 |
| SFMS Insurance | 465.00 | ----- | | | |
| IMP Show | 133.28 | Sub total | \$17,754.81 | IMP newsletter | 138.08 |
| IMP Show | 24.48 | ----- | | | |
| IMP Newsletter | 137.71 | Checks Written (-) | | Misc. Show Expenses | 135.71 |
| US Post Office | 561.00 | Meeting Food | \$75.00 | ----- | |
| US Post Office | 264.00 | Meeting Food | 75.00 | Sub Total | \$1,361.52 |
| NC Paper (Bags) | 23.71 | Cyndy Hummel show food | 245.89 | ----- | |
| Nancy Holland | 525.00 | 2 new tires for trailer | 200.00 | Apr. Ending / | |
| Misc. ADJ | 207.09 | Post Master | 46.20 | May Beginning Balance | \$8,880.88 |
| ----- | | | | | |
| Sub Total | \$2706.52 | Indy Wk Adv for show | 497.00 | | |
| ----- | | | | | |
| Feb. Ending / | | Startup money | 404.00 | | |
| Mar. Beginning Balance | \$6,395.07 | Geodes | 3,065.48 | | |
| ----- | | | | | |
| | | IMP | 6.11 | | |
| | | NC State Fair | 10,473.00 | | |
| | | Misc. ADJ | 96.25 | | |
| | | ----- | | | |
| | | Sub Total | \$15,183.93 | | |
| | | ----- | | | |
| | | Mar. Ending / | | | |
| | | Apr. Beginning Balance | \$8,965.95 | | |

PEARL

By Obsidian Harris

PEARL is often considered a gemstone, although it is not a mineral. Rather, pearl is a composite of the mineral Aragonite (Calcium Carbonate) and the organic compound conchiolin (a protein). The combination is called nacre, or mother-of-pearl. In some cases, there is an admixture of the mineral calcite (another mineral composed of Calcium Carbonate). In pearl oysters and freshwater pearl mussels, nacre forms the inner lining of the shell. In most other molluscs the shell has an appearance more like porcelain, and lacks the luster and iridescence of mother-of-pearl.

A pearl is formed inside these molluscs when minute hexagonal crystals of aragonite and conchiolin (as a binder) are deposited over an irritant. As a composite, it is tougher than the aragonite from which it's formed, and the layered nature of the structure contributes to the luster of the pearl.

An ideal pearl is spherical, but other shapes are common. A pearl may even become cemented against the inner wall of the shell, and eventually become a blister pearl.

Most pearls are "cultured", meaning the oysters (or mussels) have been opened and a "seed" inserted into the flesh of the oyster. The oyster then secretes nacre over the seed, eventually covering it with mother-of-pearl and a pearl is formed. Note that a natural pearl of significant size takes many years to form, as only a fraction of a millimeter of nacre is deposited each year. But for a cultured pearl, a bead is inserted as a seed (typically composed of shell), and the oyster may be harvested (and the pearl removed) in as little

as six months, although for higher quality pearls (a thicker layer of mother-of-pearl) the harvest may not be done for several years. Different species have different secretion rates of nacre, so the minimum time varies widely.

At one time, pearls were very rare and expensive, because more than a thousand oysters might be harvested to find a single pearl, and that one may have been small or misshapen. However, raising oysters or freshwater pearl mussels is relatively easy, and the process of inserting the "seeds" has been perfected, such that cultured pearls are now harvested by the ton. Still, only a fraction of the harvest will be of high-quality pearls.

Note that imitation pearls are common. These may be made of ceramics, plastics, or other materials. The simplest test (which is not, unfortunately, infallible) is the "tooth" test. Rub the pearl against the front of your tooth. If it feels smooth, it is a fake pearl. If it feels slightly gritty, it may be genuine (or a really well-made fake). There is no easy test for natural versus cultured pearls, other than to break it or slice it to see if the interior is all concentric layers (as in a natural pearl) or if the center (the bulk of the pearl) is ordinary shell material without layering.

Pearl is a Birthstone for June, and for the astrological signs of Scorpio and Cancer. It is the traditional gift for a 30th anniversary (reflecting its historical high value), although in the modern lists Pearls are to be given for the twelfth anniversary. Pearls are associated with the values of modesty, purity, beauty, and happiness.

Alexandrite

By Obsidian Harris

The Gemstone Alexandrite is the color changing variety of the mineral Chrysoberyl. The June Birthstone, its color varies from red to green depending upon the light source. It is an alternate (modern) Zodiac stone for the constellation of Gemini. Alexandrite is associated with balance, confidence, and joy.

Alexandrite is named for the former czar of Russia, Alexander II, and was first discovered in the Ural Mountains of Russia, supposedly on the day of his birth. Chromium gives alexandrite its color and while, in most minerals, a trace element like chromium would provide only



one color to the mineral, in alexandrite it gives it two! Coloring agents are dependent on the wavelength of light and the chemical bonds in the crystal to determine the color that they will cause. An element like copper, in normal light, can cause a green color in malachite and a blue color in azurite, it all depends on the character of the chemical bonding. In a single specimen of alexandrite, the chromium is in such a balanced situation that the color of the specimen depends on the character of light that hits the crystal. If the light is natural sunlight or fluorescent light, the crystal will be green; however, if the light is incandescent light from a common indoor light bulb, then the crystal will appear red.

Synthetic corundums spiked with trace elements that yield an alexandrite-like color change are sold as alexandrite on the gemstone market. These stones have a red-violet, near-amethyst color in incandescent light and a blue-violet color in daylight. They are far cheaper than natural alexandrites, which are some of the rarest and most expensive of gemstones.

Oligoclase

By Obsidian Harris

Oligoclase is not a well-known mineral but has been used as a semi-precious stone under the names of sunstone and moonstone. Sunstone has flashes of reddish color caused by inclusions of hematite. Moonstone shows a glowing shimmer similar to labradorescence, but lacking in color.



The display is produced from lamellar intergrowths inside the crystal. These intergrowths result from compatible chemistries at high temperatures becoming incompatible at lower temperatures and thus a separating and layering of these two phases. The resulting shimmer effect is caused by a ray of light entering a layer and being refracted back and forth by deeper layers before it exits the crystal. This refracted ray has a different character than when it went in and produces the moonlike glow. Moonstone is an alternate birthstone for the month of June.

contain 90-70% sodium to 10-30% calcium in the sodium/calcium position of the crystal structure. The various plagioclase feldspars are identified from each other by gradations in index of refraction and density in the absence of chemical analysis and/or optical measurements.



All plagioclase feldspars show a type of twinning that is named after albite. Albite Law twinning produces stacks of twin layers that are typically only fractions of millimeters to several millimeters thick. These twinned layers can be seen as striation like grooves on the surface of the crystal and unlike true striations these also appear on the cleavage surfaces. The Carlsbad Law twin produces what appears to be two intergrown crystals growing in opposite directions. Two different twin laws, the Manebach and Baveno laws, produce crystals with one prominent mirror plane and penetrant angles or notches into the crystal. Although twinned crystals are common, single crystals showing a perfect twin are rare and are often collected by twin fanciers.



Oligoclase is a member of the Plagioclase Feldspar Group. The plagioclase series comprises minerals that range in chemical composition from pure $\text{NaAlSi}_3\text{O}_8$, Albite to pure $\text{CaAl}_2\text{Si}_2\text{O}_8$, anorthite. Oligoclase by definition must



UPCOMING SHOWS

July 12 - 14, 2013: Raleigh, NC - Gem & Jewelry Show. NC State Fairgrounds, Scott Building. Dealers will offer a variety of gems, jewelry, crystals, minerals and beads for show and sale. Rare minerals, giant sharks teeth, and fossils will be on display. Show hours: Friday, Saturday and Sunday, 10 a.m. to 5 p.m. Admission: Free admission. www.frankcoxproductions.com; 941-954-0202; frankcox@comcast.net

July 27 - August 5, 2013: Spruce Pine, NC - 29th Annual Grassy Creek Gem and Mineral Show. Parkway Fire and Rescue Department at 12966 Hwy. 226 South, Spruce Pine, NC, halfway between US 19E and the Blue Ridge Parkway (exit 331). There are 72 dealers who have all kinds of gemstones, mineral specimens, jewelry, beads, fossils, and lots more. Mine tours available. Admission is FREE. Parking is FREE. BBQ and silent auction of items donated by the dealers on Saturday to raise funds for the fire department. Hours are from 8 to 6 all days. Contact Donna Collis at collisdonna@yahoo.com for information.

August 3 - 4, 2013: Raleigh, NC - Bead Mercantile Show. NC State Fairgrounds, Scott Building. Visit our event for a great selection of beads and bead related items from vendors from across the country and world selling everything from hand-made artisan glass beads to direct imports such as beads (seed, pewter, semi-precious

gemstones), findings, threads/cord and everything else you need to make beaded jewelry. Workshops also available. Show hours: 10 a.m. - 5 p.m. Saturday and 10 a.m. - 4 p.m. Sunday. Admission: General Admission of \$6 is discounted to \$3 with registration at door or online - children under 16 admitted free but must be accompanied by an adult. www.beadmercantile.com; 610-909-2674; beadmercantile@yahoo.com

August 30 - September 2, 2013: Raleigh, NC - Treasures of the Earth Gem, Mineral & Jewelry Show. NC State Fairgrounds, Scott Building. This show offers precious and semi-precious gem stones, pearls, beads and findings, minerals, fossils, and finished jewelry in gold and silver. Wirewrappers and jewelers on site. Show hours: Friday: noon - 7, Saturday: 10 a.m. - 6 p.m.; Sunday: 11 a.m. - 6 p.m.; Monday: 10 a.m. - 5 p.m. Admission: Adults \$5 - under 16 admitted free. www.TreasuresOfTheEarth.net; (804) 746-7663; tote1523@treasuresoftheearth.com

March 28-30, 2014: Raleigh, NC - 38th Annual Capital Area Gem & Mineral Show. Tar Heel Gem and Mineral Club, Inc. Kerr Scott Building, NC State Fairgrounds, Raleigh, NC. 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;

NEW THGMC Show Information just above!!!

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.

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.

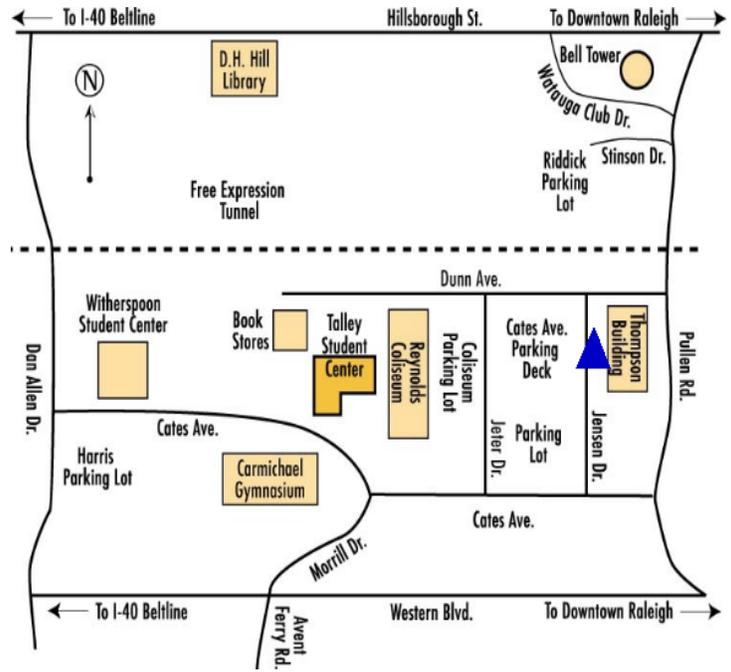
Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

Our Next Meeting is June 18, 2013 @ 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

