

Tar Heel Tailings

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

Special Interest Articles:

- Prez Sez
- September Door Prize - Quartz and Bournonite crystals
- October Field Trip

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Prez Sez By Cyndy Hummel

We will have a packed meeting, with grab bag filling, Gary McCutcheon's presentation on filing a claim and a business meeting.

We will begin with grab bags, so please bring material for the bags. We will break for refreshments and we will munch while Gary is presenting. The business meeting will be last. Nominations will be accepted. The T-shirt color will be selected, also with your vote. From the seven colors

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That specimen come from where? Yow what? China...Yikes!

By Fletcher MacDonald

My prize selection last month, as the fortunate winner of the Tar Heel Gem and Mineral Club door prize drawing, was a beautiful miniature mineral specimen of Quartz and Bournonite crystals from the Universal Rock Shop. The cogwheel Bournonite crystals (up to 3/8") were perched on and between many clear Quartz crystals (up to 3/4") with smaller quartz crystals situated upon several of the Bournonite crystals. A very aesthetic, pleasing miniature specimen. The specimen has made a beautiful addition to my personal collection. This piece has its' origins in the world famous

Yaogangxian (pronounced Yow-gong-she-an) Mine in China.

The Yaogangxian Mine, in Yizhang County, Chenzhou Prefecture, in southern Hunan Province China is remote and far from any major city. It has been a prolific producer of mineral specimens for nearly 100

years. Of the many thousands of specimens collected at this mine, it from time to time produces exceptional and world class specimens, especially specimens of Fluorite and of Bournonite. In addition, as a result of the vast variety of minerals available from the mine, it

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

Program & Refreshments

<u>REFRESHMENT SCHEDULE:</u>	
Coordinator: Need Volunteer	
October	TBD
<u>PROGRAM SCHEDULE:</u>	
October	Gary McCutchen, Filing a Claim, How to Get Your Own Mine, grab bags
November	Elections/Movie: Mount St. Helens

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

October Treasurer's Report

Jul. Ending /	
Aug. Beginning Balance	\$4,834.96

Deposits (+)	
Members	\$25.00

Sub total	\$25.00

Checks Written (-)	
Newsletter	\$138.08
Gift/Quarry	403.73
Donation-craft	250.00
Dops for members	240.00

Sub Total	\$1,031.81

Aug. Ending /	
Sep. Beginning Balance	\$3,908.15

Deposits (+)	
No Deposits	\$0.00

Sub total	\$0.00

Checks Written (-)	
Newsletter	\$138.08
Mailing labels	46.94
GoDaddy website	143.64
Meeting food	75.00
Stamps (5) rolls	245.00

Sub Total	\$648.66

Sep. Ending /	
Oct. Beginning Balance	\$3,259.49

October B-Day Members

- Gerald Beck
- Patricia Bigness
- Brian Gray
- James Harstad
- Larry Jackson
- Diana Locki
- Dexter Mills
- Julie Milowic
- David Milowic
- Ray Milowic
- Joe Moylan
- Lara Ryan
- Alan Santala
- Shawn Shelton
- John Sieminski
- Adam Soderberg
- Robin Sudaby
- Melissa Whitfield



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. - September Meeting Minutes

Tuesday, September 15th, 2015

Attendees =25

Opening of Club Meeting:

Meeting was called to order by Cyndy at 7:36.

New Business:

Visitors - no one brand new tonight, but...

Fletcher MacDonald's 2nd meeting, started collecting with his Dad in New England

Kim Cathey has been collecting since she was a child

Carole Shore got a pet rock from her boyfriend Mike and now they're married! They came with Brandy their dog

Birthday Babble – Happy Birthday to all!

Mike Franklin – Talked a lot about sweeteners

Linda Searcy – Has a part time job with a goldsmith!

Exciting but stressful.

Gary McCutcheon - Back from a summer in Virgin Valley, more later

James Adams

Mary Harbison

George Harris

Old Business:

No updates on a NEW web site, but our current one is updated.

Next month we have a program AND we are doing grab bags. Kenny Gay has a collection from a former member and we now have a lot of material but you should still bring whatever you can for the next meeting. (Found some fire ants too.) Next year we will have an auction with a lot of geodes and things.

Field trip to Richland this Friday to look for fossils.

Took a break for refreshments at 8PM.

Prez Sez

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chosen earlier, most were available in the selected shirt. I will have a print out of the colors. We will select the top 3, so vote for your top 3. Then we will select the winner from the top 3. If time permits, we can discuss if we want another design or different words on the shirt.

Kitty Maynard, Prep's widow will have some items to sell

Prep Maynard Sale

By Clea Gallian 910-892-5248;
cleadonovan@hotmail.com

Kitty Maynard, Prep Maynard's widow, has some supplies she would like to sell. She will be at the next club meeting on October 20th at 7:00 pm before the meeting and immediately after the meeting for anyone interested in purchasing anything.

Program:

Program Dan Cathey spoke about his trip to the Poland Mining Camp in Maine.



Price includes room and board. If you go on a Saturday, you get lobster! There are quite a few minerals to be found, including gem-quality tourmaline, mica, and more. Great presentation.

Door Prize:

After the presentation we drew our door prize winner Fletcher MacDonald won and chose a piece of quartz and Bornenite.

There was a second drawing that was won by Carole Shore and she got a micro mineral specimen.

Close of Meeting:

The meeting was adjourned at 8:50PM.

Respectfully Submitted

Walt Milowic,

Secretary, Tar Heel Gem and Mineral Club, Inc.

club members beginning early at 7PM. See note from Clea Gallian for details. Come early if interested.

See you soon,

Cyndy Hummel

President,

Tar Heel Gem and Mineral Club, Inc.

She has: 17' of 22 gauge gold-filled square wire, 76' of 16 gauge gold-filled half-round wire, 24' of 20 gauge gold-filled half round wire, a Polarizer, 24 punch dapper set with cube, small rotary tumbler, 3 lb. box of pumice, 1 quart Super Sunsheen Burnishing Compound, miscellaneous books, slabs, unfinished and finished cabs, containers of opal material, polishes, and other items.

Field Trip Information

By Shirley Green

Hanson Gardner Quarry Field Trip

When:

Saturday, October 17, 2015, 9:00 am until 12:00 pm. (They close at Noon). We must arrive at the quarry no later than 8:45am. for for the safe ty briefing. This is a shared field trip with the Cape Fear mineral club. No Latecomers!! DO NOT ARRIVE LATE IF YOU WISH TO PARTICIPATE.

Where:

3155 North Carolina Highway 210 S., Bunnlevel, North Carolina

Collecting:

Minerals that you can find here:

- Purple fluorite
- Galena
- Green fluorite - possibly
- Pyrite

Requirements:

- Under 18 are allowed if their parents are willing to sign a release and stay with them in quarry.
- Safety Vest
- 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

Directions:

3155 North Carolina Highway 210 S., Bunnlevel, NC

September Door Prize - Quartz and Bournonite crystals

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does produce some very unusual, beautiful and mesmerizing aesthetically unique mineral specimen associations and combinations.

The Yaogangxian mine is primarily a Tungsten Mine. According to the USGS in 2006, the area known as the Nanling Region of China (where the Yaogangxian mine is located), this mine accounted for 90.0% of China's 90.9% production of Tungsten for the year 2004. China's typical yearly tungsten output is between 83% and 85% of the total global tungsten production. The Yaogangxian Mine continues to be a major producer of tungsten year after year as well as a lesser, but nonetheless significant source of copper, tin, silver and arsenic. In addition, Yaogangxian continues to produce some of the finest Chinese mineral specimens ranging from low end/grade up to investment and world class specimens. According to mindat.org, 79 mineral species have been verified and/or validated for this mine. In some source references, the number of mineral species is listed closer to 100. This higher number may be due to the misidentification of some mineral species that may have come from other local mines but have been incorrectly attributed to being found at the Yaogangxian Mine. Further study of the questionable mineral species through recognized scientific methods will undoubtedly clear up and result in the reattribution of mineral species to Yaogangxian or to their proper place of origin.

The mine itself is located in Mount Yaogangxian. It employs around 5000 people of which about 400 individuals work underground with the rest working above ground in an administrative capacity. Interestingly, the town of Yaogangxian at

the base of Mt. Yaogangxian has a modest population of approximately 10,000 people and almost everyone in the town is in some way economically tied to the mine. As a side note, mining in this area can be traced as far back as the 7th Century AD (not specifically at Mt. Yaogangxian but relatively close).

When viewed against the landscape, Mt. Yaogangxian stands at 1850 meters above sea level and is the highest mountain in the Bamian Mountains. Tailing dumps from the numerous mines on the southeastern side of Mt. Yaogangxian area very prominent feature. They look like tan colored streams flowing down the sides of the mountain. The name Yaogangxian means "near to the heavens". Interestingly, the mountainside at the higher elevations is dotted with very colorful graves and grave markers. Apparently, being buried higher on the hillside ensures the deceased a position closer to heaven in their afterlife. Another bit of information is that in some areas and at some levels with minimal activity miners and their families have moved in. These families live with and around mounds of garbage and share their accommodations with extremely large black rats.

To say it is a challenge to get to reach this mine would be an understatement. To get to the mine from the United States it's a real journey, part by air (10 hours) just to reach China, then another 2 hour flight getting you closer, then a day long bus trip, then yet another day long trip by taxi including several kilometers after the pavement ends taxi and the paved road ends. I hope you brought a lot of yuan's with you to make this trip worth it. Folks were talking about 3 to 5 days just trying to get to the mine! Now actually getting to see the inside of the mine is just another challenging quest to add to your itinerary. It's not for the faint of heart. You cannot question

the reliability or doubt the safety of the 50+ year old hoist nor any second thought of uncertainty about the dripping wet cable or connections which connect you to the elevator car. Here, you and as many Chinese people that can humanly fit into this dark, soaking wet cage, prepare to make your way into the depths of the mine. Just another day for some.



Maphill Google DigitalGlobe imagery showing the numerous dumps cascading down Mt. Yaogangxian, from the various openings into the Yaogangxian Mine.

The mine itself is comprised of many winzes (a minor connection between different levels of an underground mine, raises going up, sumps going down) and the 24 levels within Yaogangxian. Level 1 is at 1512 meters above sea level, level 24 is 540 meters above sea level. A hundred years of mining has driven hundreds of kilometers of underground mine workings into the mountain with some levels reaching 4 km laterally. Level 21 is the main level where the mined material exits and transits a tramway to the crushing plant.

Mineral specimens that we have access to from Yaogangxian reach the market via 2 routes. The first route consists of a very sophisticated network that handles the collecting and distribution of mineral specimens. This includes individuals that employ full time miners whose sole purpose is to collect minerals for the specimen market. This group of "contract collectors" obtain the lion share of finest pieces coming out of the mine, and that ultimately reach the market. The second group does not involve contract collectors at all but comes to market via other channels. Specimens coming to market this way have never been seen by the contract collector but have made their way through several middlemen and eventually they make their appearance in the inventories of dealers far removed from Yaogangxian.

Level 3 of Yaogangxian was (and still is in some ways) very productive but is all but abandoned now. It is here where a maze of richly mineralized criss-crossed veins can be seen and that some of the finest Bournonite specimens are recovered. Extraction of specimens can be difficult as the miners here are ill equipped, poor peasants who are willing to work under extremely dangerous conditions. Peasant miners at level 3 risk life and limb daily with each incursion to uncover some of the most beautiful and desirable mineral specimens and eke out a meager daily living.

Yaogangxian is noted for exceptional specimens of Bournonite as well as Fluorite. Well established experts/collectors feel that Yaogangxian is the premier Bournonite specimen location in the world. There does exist a rival though between the Bournonite specimens collected from the Historic Herodsfoot Mine in Cornwall, England and Yaogangxian Mine in China. But, collectors fall on

each side of which location produces the best specimens. Both mines are recognized as producing exceptional, world class specimens of Bournonite. As for Fluorite, entire collections could be formed based on variations in color, size, morphology, and associated species (the list is almost endless). Colors include, colorless, green, purple, blue, and rumors of pink to red have been passed around. Crystal forms include cubes, octahedrons, dodecahedrons, spinel-law twins, stepped octahedrons. Fluorite crystals up to 15cm on edge have been recovered from this location.

The following is a list of minerals that have been reported as having been found at the Yaogangxian Mine. The list is split into 2 categories, those verified or validated via scientific methods utilizing Scanning Electron Microscopy (SEM) or Energy Dispersive Spectrometry (EDS) or X-ray diffraction (XRD) technologies. Others noted as being from this location and not listed in the aforementioned but having been listed as coming from this location have not been tested so their correct attribution may yet be unclear. Validated and Verified Mineral Species found at the Yaogangxian Mine:

Ankerite, Arsenopyrite, Beudanite, Boulangerite, Bournonite, Brochantite, Calcite, Cassiterite, Chalcopyrite, Cookeite, Clinocllore, Dolomite, Ferberite, Ferrokesterite, Fluorapatite/Apatite, Fluorite, Friebergite, Galena, Goethite, Gypsum, Helvite, Huebernite, Kutnahorite, Marcasite, Muscovite, Pyrite, Pyrrhotite, Quartz, Rhodochrosite, Sheelite, Semseyite, Sphalerite, Stannite, Stibnite, Tetrahederite, Wurtzite.

Unconfirmed Mineral Species currently being listing as found at Yaogangxian but not verified or validated:

Bertrandite, Beryl, Bismuthinite, Bornite, Galenobismutite, Jamesonite, Molybdenite.

This by no means is this a complete list of species found at the Yaogangxian Mine.

Finally, the Yaogangxian Mine plays different rolls to different people. To some its home, to some it's a livelihood, to some it brings them closer to where they want to be in the afterlife, to some it's a strange foreign sounding place and yet to others it's a place that speaks unlimited volumes to the beauty and majesty that nature prepared for us to uncover and for us to stand in awe of. The Mineral Kingdom is full of surprises. While The Yaogangxian Mine has been worked for more than a hundred years, I'm fairly certain it still has a few more surprises tucked away. I'm sure that tucked away in some stope, adit, wenze, fissure, vein or vug is a new mineral yet to be discovered. When found, it too shall find its way into collections, big and small just like the all the other mineral specimens we currently steward.

Sources:

- Mindat.org Yaogangxian Mine
- Mineral News, Vol 25, No. 4, April 2009, pages 1-11, 14
- Mineralogical Record, "China", November-December 2011, Volume 42, Number 6 Pages 557 – 603
- Miner Deposita (2006) 41: 661–669 article "Precise molybdenite Re–Os and mica Ar–Ar dating of the Mesozoic Yaogangxian tungsten deposit, central Nanling district, South China" Received: 12 June 2006 / Accepted: 8 July 2006 / Published online: 25 August 2006 # Springer-Verlag 2006
- Map Image courtesy of Maphill using Google 2015 DigitalGlobe

Sharing the Rough, a Mine to Market Documentary

We want to be sure the Tar Heel Gem and Mineral Club is aware of the screenings of our award-winning documentary, Tuesday 10/27 and Thursday 10/29, at The Full Frame Theater in Durham (we are also screening on 10/28 in Charlotte).

It's a full length feature documentary that chronicles the remarkable journey of a gemstone from the dirt in East Africa to faceting and then fashioning into a piece of one-of-a-kind jewelry. There is geology, mining, the tenacious miners in Africa who work so hard and have such passion for the gems, gorgeous scenery, and the incredible jewel at the end of the film.

This is a completely crowd-sourced film directed by a GIA graduate, and it tells a story of ethics, responsibility, hope and promise. This theatrical release has recently been sponsored by both Jewelers Mutual Insurance and the American Gem Society!

Please let me know if you have any questions or would like more information. The trailer can be seen on our website, www.sharingtherough.com

Thank you so much!

Warmly,

Lesli Thom

Producer

Sharing the Rough

Mexican Obsidian : A naturally formed glass produced by volcanoes

By Dave Gibson

Obsidian is formed by the rapid cooling of viscous lava that is extremely rich in silica. It has no crystal structure as it cools too fast to crystallize.

Obsidian was an essential material in the daily and ritual lives of the ancient cultures of Mexico and Guatemala.

It was used to make all types of sharp instrument tools such as knives, arrow heads, scalpels, and scrapers. It was also used as body ornaments.

In the Aztec language (nahuatl) it is called Itztli or devine stone and came under the deity Tezcatlipoca, Lord of the Night and owner of magic obsidian mirrors. It was also a very valuable trading commodity.

With the arrival of the Spanish and the use of metal the use of obsidian quickly declined. The Spanish themselves had no interest or use for obsidian. Their interest was in other commodities such as gold or silver.

The main prehistoric source for obsidian was at Otumba and Pachuca some 30-55 miles, respectively north east of Mexico City. This was the source for obsidian for the Aztecs, Toltec and the people before them who built the great pyramids of Teotihuacan.

Obsidian has been found at every Meso American archeological site of any importance. Obsidian from Pachuca has a distinct green tint to it and is considered to be superior to obsidian from other sources. It was traded to the Almec on the Gulf coast and the Maya, in what is now Guatemala, even though they had their own deposits of obsidian.

Another important ancient source was in what is now the state of Jalisco around the volcano Tequila. This area still has one of the largest deposits of obsidian in the world.

Today the deposits north east of Mexico City and in Jalisco state still produce much material. It is often carved into modern replicas of Aztec or Toltec deity. At the Great Pyramids at Teotihuacan near Mexico City there are many vendors of obsidian and also in the street markets of Mexico City.

In the small town of Magdalena in Jalisco state there are many workshops cutting and polishing obsidian. The roads, between the towns of Tequila and Magdalena, pass through many thousand tons of obsidian. You can help yourself to some and this is the area that Tequila is produced from the Blue Agave, a cactus like plant. There are vast rows of it stretching for miles. It's quite a sight. You can visit the distilleries in the town of Tequila. A nip or two is a real pick up, but don't overdo it.

The specialty of the Mexican cutters is a heart. To cut a heart you need an oval or round formation in the obsidian stone. Grind down on the sides of the oval to produce the V. Then nick the top of the stone on the edge of the grinding wheel to produce the heart, though it's easier said than done. Always wear safety glasses when working with obsidian as it is a glass.

There are many different colours and shades in obsidian: mahogany, snowflake, silver, gold and green sheen. Pure obsidian is black. Iron and magnesium oxide causes the brown green and red colours.

Sometime in the late 1990's rainbow obsidian came onto the market. It was found in only one area in Jalisco state. Rainbow obsidian is an amazing material with the full spectrum of rainbow colours. The interference of light (iridescence) on microscopic gas bubbles causes this amazing display of colour. Though three stone has to be cut in the right direction and orientation to bring out the colour, I have not seen really high grade rainbow obsidian for many years. It is a case of if new deposits can be found.

Much Mexican rough obsidian is exported to China for cutting and polishing there.

Source:

CONTACT : Dave Gibson. A collector in the UK. My email is davegibson46@rocketmail.com <http://www.mexicanamber.org.uk/obsidian.php>

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UPCOMING SHOWS

November 20 - 22, 2015: Columbia, SC - The Columbia, SC Gem & Mineral Society will hold its 47th Annual Gem, Mineral, & Jewelry Show. Jamil Temple, 206 Jamil Rd. (Exit 106A off I -26), Columbia, South Carolina 29210. Hours: Friday November 20, 10:00 - 6:00. Saturday November 21, 10:00 - 6:00. Sunday November 22, 12:00 - 5:00. Jewelry, beads, loose stones, fossils, minerals, gold, silver, & tools for sale. Geodes sold & cut. Club member's rock collections on exhibit & lapidary demonstrations. South Carolina amethyst on display. Admission is \$5.00 for adults, children sixteen & under are free with adult. All military & their dependants are free. Contact information: Sue Shrader...Publicity...803-736-9317
ashrader@mindspring.com Club website: www.cgams.org

Palm-sized Mineral Dispersal Sale

Sponsored by the Central NC Mineral Club

The CNCMC, based in Chapel Hill, will sell on November 3rd nearly 200 individual palm-sized mineral specimens, each with known provenance, that members have donated to the club over many years. This is an opportunity to craft a unique collection of minerals from throughout the world at very reasonable prices. All specimens are priced from free to

November 27 - 29, 2015: Salem, VA - 36th Annual Roanoke Valley Mineral & Gem Society Show. Salem Civic Center, 1001 Boulevard, Salem, VA 24153. Hours: Friday, Nov 27, 2015 - 2pm to 7pm. Saturday, Nov 28, 2015 - 10am to 6pm. Sunday, Nov 29, 2015 - Noon to 5pm. Hobby related exhibitors, Fluorescent Mineral Display, Club member displays, Geode Cutting. Door prizes drawn hourly. Grand Prize drawn 4:30pm Sunday. Admission \$4, ticket good for all three days. Children under age 16 free. Free Parking. Contact information: CKWLT@aol.com.

\$10.00 each. Please join us at the Seymour Senior Center* auditorium on Tuesday evening, November 3rd, from 6:30-9:00 pm and give our minerals a new home!

*Seymour Senior Center, 2551 Homestead Rd, Chapel Hill, NC 27516

Pictures from the previous meeting:



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
October 20, 2015 @ 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

