October, 2011
Volume 39, Issue 10

Tar Heel Tailings

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

Special Interest Articles:

- President's Report
- Grab Bags
- Upcoming Events

Individual Highlights:

President's Report

Hello All,

It sure has been an eventful past few weekends for rockhounds in our area and I was glad to see so many club members.

It started with the MAGMA sponsored Fall Glendon Fieldtrip, Saturday, Sept. 24. This is always a well attended fun dig collecting beautiful cubes of Pyrite and Fluorite in the R.T. Vanderbilt & Co. Pyrophyllite quarry near Glendon,

Continued on page 3

Break out the Grab Bags

Grab Bags will be the Program for October. Bring all of your items that you want to contribute to the Grab bags for the show. If there are any items left over, they can be stored in the club's storage unit.

We need rocks and cardboard flats to store them in. We were low on flats last time. All types of rocks and minerals are needed, from small to large. If you've been on a field trip recently, and collected more rocks and minerals than you know what to do with, then bring them to the meeting. Someone opening a grab bag will be excited to find your gift.

You can also bring items for the Silent Auction.

The 2012 TG&MC Show Dates will be, Friday-Sunday, March 30 - April 1, 2012, with access Thursday.

Tar Heel Gem & Mineral Club, Inc.

10609 Chelsea Drive
Raleigh NC 27603

Joe Moylan – President
jmoylan1002@nc.rr.com
(919) 554-3175

Kenny Gay – V-President
kenny.gay@ncdenr.gov
(919) 604-2376

Walt Milowic – Secretary
wmilowic@nc.rr.com
(919) 327-3227

Corinne Hummel – Treasurer
mchummel@mindspring.com
(919) 779-6220

Bob Bendelow – Librarian
& Committee Member
r.bendelow@earthlink.net
(919) 552-8175

Cyndy Hummel – Committee Member
mchummel@mindspring.com
(919) 779-6220

George Harris – Newsletter Editor
GeorgeFHarris@yahoo.com
(919) 674-0243

Tom Todaro – Field-Trip Coord.
caribtomt@yahoo.com
(919) 639-7798

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

Membership applications may be mailed to:

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

Program & Refreshments

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

October	Cyndy and Corinne Hummel
November	Jerry and Deborah Miller

PROGRAM SCHEDULE:

October	Grab Bags
November	Elections

We really appreciate the refreshments at our meetings. We need to start thinking about next year's meetings. Please pick a month and sign up with Jeanette at this meeting. You can be reimbursed up to $40 for volunteering to bring refreshment to a meeting.
Thank you, Jeanette Baugh

August/September Treasurer's Report

August Ending / Sep. Beginning Balance	$14,597.17
Deposits (+)	
Members	$15.00
Sub total	$14,612.17
Checks Written (-)	
Newsletter	$155.32
Storage	93.00
Wildacres	465.00
copy card	50.00
Fair Show Deposit	2000.00
speaker	75.00
Geiger Counter	139.57
Field Trip	28.32
Website	115.00
Paper bags, etc.	70.80
Sub Total	$3192.08
Sep. Ending / Oct. Beginning Balance	$11,420.09

October B-Day Members

Laurie Adams
Felton Ray Ayscue
John Everette
John Fasy
Claudine Gates
Larry Jackson
Joann Lail
Joe & Patti Moylan
Elaire Schulz
John Sieminski
Robin Suddaby

Tar Heel G & M Club September Meeting Minutes

Tuesday, September 20, 2011

Jeff Schlotman opened with his presentation on Hiddenite at 7:43.

He mentioned two books that were particularly good. One was "Hiddenite- Land of Discovery" by Adam Smith. The other was about mineral collecting sites in North Carolina.

He mentioned that many of the big emeralds found in North Carolina are no longer in North Carolina because big oil companies buy them.

A 1276-carat emerald was found among others. Lots of strange shaped crystals of common minerals were also found among the 63-68 different minerals found in that area.

The largest was 1869 carats for a single crystal. More information can be found at northcarolinaemeralds.info.

The presentation ended at 8:45.

Joe opened the business meeting at 9PM. Bob Bendelow motioned to accept the minutes and Debbie Miller seconded.

Joe said that the next meeting will be to make up grab bags and that we should also bring some canned food in for an Urban ministries drive sponsored by the craft center.

Tom talked about the field trip to Black ankle quarry near Charlotte at 9AM, October 1st . The quarry is known for slate. On October 22nd we'll be heading to Wake stone in Nash county near Rocky Mount.

October 1st there is a rock trading post rock swap and it's Barrett Redpath's birthday as well. October 7th is the Graves Mountain trip.

Grant won a scholarship to Wild Acres and showed off the cabs he made. You can use the cabbing machines at the craft center if they are not being used and you can show that you know how to use them.

There is a Rock and Gem special on subscriptions. It's only $22.95, five dollars off. Rock and Gem will contribute $6 to the club for each subscription. We'll shoot for November as a deadline.

Dr Mike has asked for $150 for supplies for the youth area at the show. We can also use these sets to help with talks with school children. Mike spoke about some things we might get and a case you can put everything in to take to a classroom.

Joe auctioned off the Vibra tumbler. Debbie Miller won the auction for $400.

Jerry Miller is in the hospital and we all wish him the best.

The door raffle was won by George Harris. He chose chalcopyrite with calcite.

Jeannette asked for volunteers for refreshments for next year.

Bob made a motion to close the meeting and Mike Franklin seconded. Meeting was closed at 9:20PM.

Respectfully submitted,

Walt Milowic

President's Report

Continued from page 1

Moore Co., NC. Many thanks to the owners for opening the quarry twice a year to collectors. Conditions for collecting are better than ever and the opportunity is much appreciated.

Many MAGMA and Tar heel Club members continued the hunt the next day to take a first look at a new quartz crystal collecting site near Norwood, Stanly Co., NC, The Burgin Mine. This looks to be another very promising and fun opportunity for those of you that like to dig through solid massive milky quartz looking for pockets of clear crystals and well worth the $ 10.00 fee per person for the day. It is about a three and a half hour drive from Raleigh but the club may want to make a fieldtrip there one day or weekend.

The next Saturday was !another! Tar Heel fieldtrip to the MM Baker Quarry in Monroe, NC. Thanks to Tom Todaro for keeping these fieldtrips coming and I look forward to hearing the report.

Also, that same day, many club members decided to sit one fieldtrip out and attend the 11th Annual The Rocks Rock Swap held the first Saturday of October. Everyone brings rocks for Show and Tell, Swap and Sell, and just sit a spell.

And we've got the upcoming fieldtrip to the Nash County Quarry, (in Nash Co.),Saturday, Oct. 22 to look forward to! Whoooeee!

So I hope everyone has been saving plenty of your surplus treasure for the Grab Bags we will be filling at the October meeting. Don't forget to get as much together as possible and bring it to the next meeting. And, if you can, please, try to remember to bring a food donation to the Urban Ministries of Wake County Food Drive being sponsored by the Crafts Center. You can read more about it on the Crafts Center Online Newsletter. They are in need of canned beans, vegetables, and soups, and pasta, rice, dried beans, cereal, oatmeal, and grits. All items brought will be collected by the Crafts Center.

See You at the Meeting,

Joe Moylan

Mineral Hardness Ruler

Contributed by Mike Franklin

Rockhounds, mineral enthusiasts, students, teachers, geologists, and any one interested in rocks and minerals will find the **Mineral Hardness Ruler** a handy visual aid for quick information on mineral hardness.

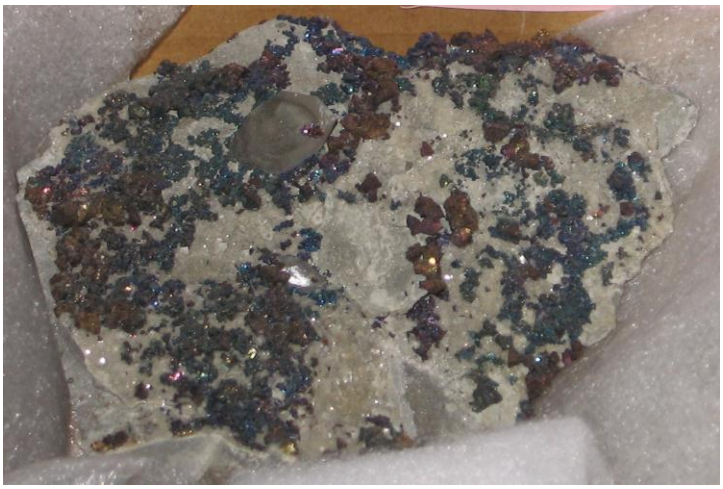
The two-sided, flexible, glossy, vinyl ruler consists of five scales: three measurement scales and two mineral hardness scales. The measurement scales are in standard ruler measurements of tenths of inches, sixteenths of inches, and millimeters. Mohs' relative hardness numbers are integrated into the inch scales, while a separate scale exists for an absolute mineral hardness scale by Rosiwal.

On one side of the ruler are pictures of the ten common minerals, in full color, selected by Mohs for his relative hardness scale. On the reverse side of the ruler are six common items with their relative hardnesses. These items, along with known minerals, can be used as a handy field kit to test the relative hardness of an unknown mineral.

Hardness is one property of a mineral that can be used to distinguish among similar minerals. A given mineral can scratch any other mineral of the same or softer hardness. Over a hundred years ago, the German mineralogist Frederick Mohs devised the relative hardness scale that has found favor with mineralogists for over a century. Others, such as Rosiwal, formed absolute hardness scales using the same minerals as Mohs. For example, diamond, the hardest substance in Nature is not twice as hard as apatite, 10 versus 5, but over twenty thousand times as hard, 140,000 versus 6.5.

http://www.amateurgeologist.com/mineral-hardness-scale-ruler.html

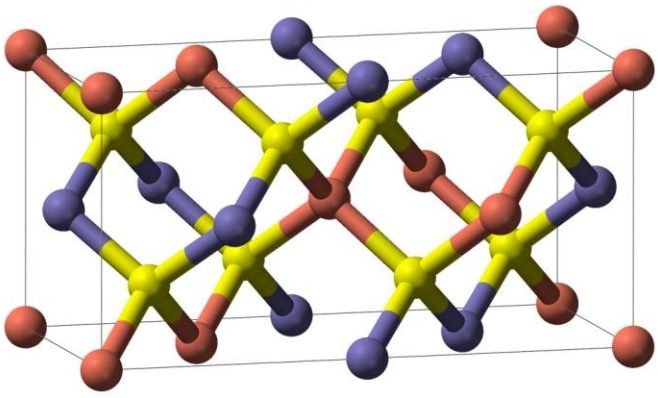
Chalcopyrite with Calcite



Chalcopyrite with Calcite (picture by George Harris)

Chalcopyrite (/ˌkælkəˈpaɪraɪt/ *KAL-ko-PY-ryt*) is a copper iron sulfide mineral that crystallizes in the tetragonal system. It has the chemical composition $CuFeS_2$. It has a brassy to golden yellow color and a hardness of 3.5 to 4 on the Mohs scale. Its streak is diagnostic as green tinged black.
On exposure to air, chalcopyrite oxidises to a variety of oxides, hydroxides and sulfates. Associated copper minerals include the sulfides bornite (Cu_5FeS_4), chalcocite (Cu_2S), covellite (CuS), digenite (Cu_9S_5); carbonates such as malachite and azurite, and rarely oxides such as cuprite (Cu_2O). Chalcopyrite is rarely found in association with native copper.

Identification: Chalcopyrite and dolomite from the Tri-state district (size: Size: 16.8 x 11.1 x 5.2 cm)
Chalcopyrite is often confused with pyrite, although the latter has a cubic and not a tetragonal crystal system. Further, chalcopyrite is often massive, rarely crystalline, and less brittle. Chalcopyrite is also a darker yellow in color, with a greenish tinge and diagnostic greasy luster.
Due to its color and high copper content, chalcopyrite has often been referred to as "yellow copper".



The unit cell of chalcopyrite. Copper is shown in pink, iron in blue and sulfur in yellow.

Chemistry: Natural chalcopyrite has no solid solution series with any other sulfide minerals. There is limited substitution of Zn with Cu despite chalcopyrite having the same crystal structure as sphalerite.
However, it is often contaminated by a variety of other trace elements such as Co, Ni, Mn, Zn and Sn substituting for Cu and Fe. Se, Fe and As substitute for sulfur, and trace amounts of Ag, Au, Pt, Pd, Pb, V, Cr, In, Al and Sb are reported.
It is likely many of these elements are present in finely intergrown minerals within the chalcopyrite crystal, for instance lamellae of arsenopyrite representing As, molybdenite representing Mo, etc.

Paragenesis: Chalcopyrite is present with many ore bearing environments via a variety of ore forming processes. Chalcopyrite is present in volcanogenic massive sulfide ore deposits and sedimentary exhalative deposits, formed by deposition of copper during hydrothermal circulation. Chalcopyrite is concentrated in this environment via fluid transport.
Porphyry copper ore deposits are formed by concentration of copper within a granite stock during the ascent and crystallisation of magma. Chalcopyrite in this environment is produced by concentration within a magma system.
Chalcopyrite is an accessory mineral in Kambalda type komatiitic nickel ore deposits, formed from an immiscible sulfide liquid in sulfur-saturated ultramafic lavas. In this environment chalcopyrite is formed by a sulfide liquid stripping copper from an immiscible silicate liquid.

Occurrence: Fine brassy chalcopyrite crystals below large striated pyrite cubes (size:8.8 x 6.3 x 4.5 cm)
Chalcopyrite is the most important copper ore. Chalcopyrite ore occurs in a variety of ore types, from huge masses as at Timmins, Ontario, to irregular veins and disseminations associated with granitic to dioritic intrusives as in the porphyry copper deposits of Broken Hill, the American cordillera and the Andes. The largest deposit of nearly pure chalcopyrite ever discovered in Canada was at the southern end of the Temagami greenstone belt where Copperfields Mine extracted the high-grade copper.[6]
Chalcopyrite is present in the supergiant Olympic Dam Cu-Au-U deposit in South Australia.
Chalcopyrite may also be found in coal seams associated with pyrite nodules, and as disseminations in carbonate sedimentary rocks.

Structure: Crystallographically the structure of chalcopyrite is closely related to that of zinc blende ZnS (sphalerite). The unit cell is twice as large, reflecting an alternation of Cu+ and Fe3+ ions replacing Zn2+ ions in adjacent cells. In contrast to the pyrite structure chalcopyrite has single S2- sulfide anions rather than disulfide pairs. Another difference is that the iron cation is not diamagnetic low spin Fe(II) as in pyrite.

Upcoming Events
TAR HEEL GEM & MINERAL CLUB - FIELD TRIP NOTICE

FIELD TRIP DAY / DATE	SATURDAY, October 22nd
TIME:	09:00 am – 2:00 pm
QUARRY OPERATOR	Wake Stone Corporation
QUARRY NAME	Nash County Quarry
QUARRY ADDRESS:	7379 N. Halifax Rd. Battleboro, NC
QUARRY TELEPHONE:	
QUARRY IN-CHARGE	
TAR HEEL TRIP COORD	Thomas Todaro, 919-349-9143 (M), 919-639-7798 (H) caribtomt@yahoo.com

REQUIRED

1. Everyone must comply with any and all safety requirements set forth by Martin-Marietta.
2. Everyone is to stay away from quarry edges.
3. No climbing on rock face's.
4. Everyone must have and wear a hard-hat.
5. Everyone must have work boots with steel toe would be better.
   - Note: Sorry but do not show up wearing sneakers and expect to go down into the quarry.
6. Everyone must have safety goggles or glasses.
7. Everyone must sign in at the quarry office.

EXTRA STUFF:

1. Feel free to bring buckets, picks, hammers, shovel, hand cart, rags, crow bar, etc.
2. Sorry, but children under 18 yrs are not permitted per the quarry manager
3. Bring a change of clothes in case you get wet.
4. Dress according to the weather, expect it to be cold. It is always easier to take clothes off then put stuff on that you don't have.
5. Camera.
6. Magnifying glass or eye loop.
7. Food / snacks.
8. Drinking water to stay hydrated.
9. Ask for help to load your take home rocks, as we don't want to see anyone hurt their back.
10. Please be prompt as the quarry operator is coming in on his day off to host our club.
11. Be sure to thank the quarry operator upon leaving as we want to leave a good impression so as we can come back.
12. Temperatures in the quarry will be excessive MAKE SURE you bring plenty of fluids. It also doesn't hurt to bring a small cooler with water to dip a face towel into for cooling.
13. Be sure to arrive around 08:45 AM.
14. Have Fun!

As I have not ever been to this Wake Stone quarry, I have no information as to what can be found there.

Directions:

Raleigh, NC

1.	From Raleigh, I-40 E, Merge onto I-440 W/US-64 E via EXIT 301 on the left toward Rocky Mount.	2.8 mi
2.	Merge onto US-64 E via EXIT 14 toward Greenville/Wilson/Rocky Mount.	37.8 mi
3.	US-64 E becomes US-64-BYP E.	6.6 mi
4.	Merge onto I-95 N via EXIT 464B toward Richmond.	6.7 mi
5.	Take the NC-4 exit, EXIT 145, toward NC-48/Gold Rock/US-301/Rocky Mount.	0.2 mi
6.	Turn right onto NC-4 S.	0.1 mi
7.	Take the 1st right onto NC-48.	0.2 mi
8.	Take the 1st right onto N Halifax Rd.	0.6 mi
9.	7379 N HALIFAX RD is on the left.	

Wake Stone Quarry, 7379 N. Halifax Rd., Battleboro, NC

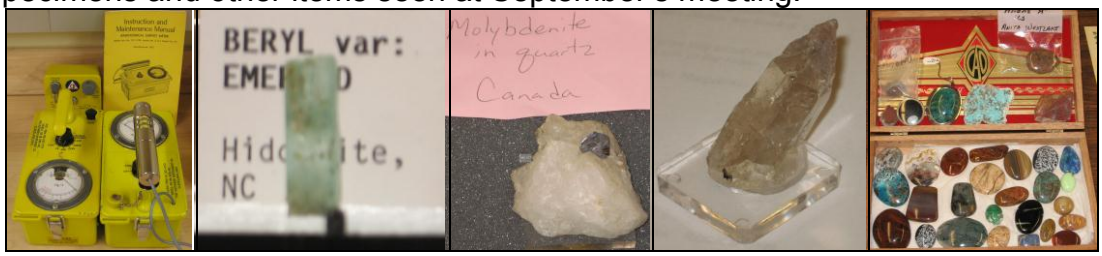
Happy Rockin !
Tom Todaro
Tar Heel Gem & Mineral Club Field Trip Chair 919-349-9143,
caribtomt@yahoo.com

UPCOMING SHOWS

Dec 10-11, 2011: Franklin, TN. Mid-Tennessee Gem & Mineral Society. Gem, Jewelry, Mineral, Fossil Show and Sale, Williamson County AgExpo Park, 4215 Long Lane, Franklin, TN 37064. Hours: Sat 9-6, Sun 10-5. Admission $4 (2-Day Pass $6.00), students 18 and under $1, children under 12 free with adult. Show contacts: John Stanley, Show Chair, (615) 885-5704 or Steve Henegar, Dealer Chair, (615) 714-3194. Email contact: show@mtgms.org http://www.MTGMS.org/Show.htm

Pictures of Gems and Minerals available as door prizes.

Pictures of Specimens and other items seen at September's meeting.



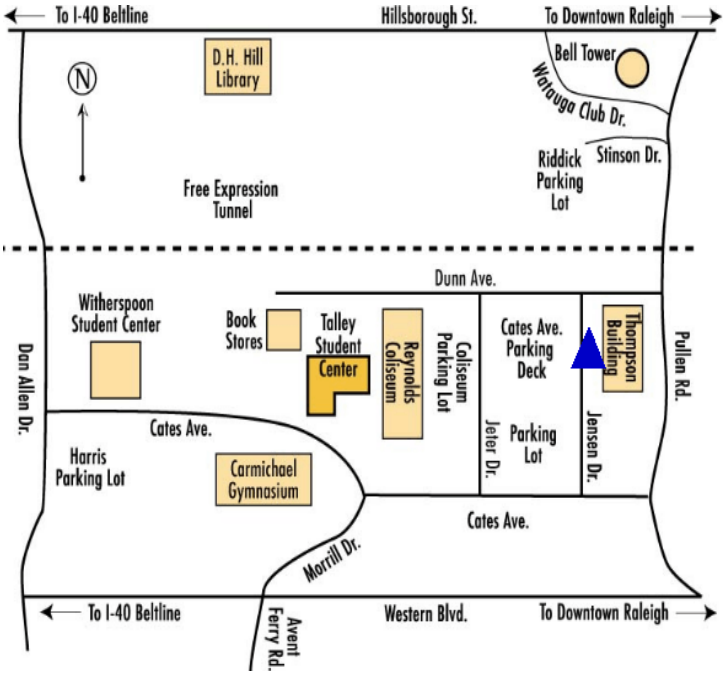
Vugsites The following are some links to Web-Sites that may interest some of our members:

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.htmlThis 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
October 18, 2011 @ 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