

# Tar Heel Tailings

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

## **Special Interest Articles:**

- President's Report
- Window Displays
- Calcite Clams

## **Individual Highlights:**

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## **President's Report**

Hello everyone,  
The holidays are over and it's time to get back to rocks and minerals!  
Did anyone get any specimens for Christmas? I know for myself, there was a time many years ago when my parents would go to Gem and Mineral shows in New Jersey and get me a nice mineral for my birthday every year.

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## **Tarheel Gem & Mineral Club Window Displays**

By Jeanette Baugh

In September, the Tarheel Gem & Mineral Club set up displays in nine of the newly remodeled Craft Center's windows where we have our monthly meetings. Gems, minerals and artifacts gathered locally and during club field trips were displayed. There were samples of rough and the cabochons and faceted stones member had made from them, as well as finished jewelry, gemstone trees, and the equipment used to work on or identify

gems and minerals. The windows were displayed for the month between the September and October meetings. A big thanks to NCSU Craft Center and to everyone who

contributed items and worked on this display! We have another opportunity to reach a much wider audience for a longer period of time.

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

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**We're on the Web!**  
See us at:  
[www.tarheelclub.org](http://www.tarheelclub.org)

**Program & Refreshments**

<p><b>REFRESHMENT SCHEDULE:</b> Coordinator: Jeanette Baugh (919) 522-9044 <a href="mailto:villagegems@yahoo.com">villagegems@yahoo.com</a></p> <p>Jan: OPEN</p>
<p><b>PROGRAM SCHEDULE:</b></p> <p>Jan: Show and Tell</p>

The Club reimburses members up to \$75 for bringing refreshments. Please email or call Jeanette before 9pm Monday 17 January 2011 if you would be willing to bring refreshments for the January meeting on Tuesday. At the meeting, you may sign up for the month of your choice to bring the refreshments. April is Potluck, July is Ice Cream Social and we do not have a December meeting so we need 9 people to sign up for the other months. Thank you.

**November & December Treasurer's Report**

Beginning Nov. Balance	\$13,300.52
No Deposits	
Expenses: Ladd's Ins.	
Accident & Health	446.40
Gen Liability	581.06
Stamps	226.15
Paper Grab Bags	60.56
Tape for SHOW	57.09
Newsletter	162.92
Storage	86.00
Book Grant	360.00
Meeting Food	72.78
EFMLS Dues	327.25
Wm Holland Donation	500.00
Wildacres Donation	500.00
Misc Supplies	72.47
<b>Sub Total</b>	<b>\$3,452.68</b>
November Ending Balance	\$9,847.84
December Deposits	
Dealers	2,185.00
Members	20.00
<b>Sub Total</b>	<b>\$12,052.84</b>
Expenses Dec.	
Storage	86.00
Rocks for Grab Bags	59.38
December 31, Ending Balance	\$11,907.46

**January B-Day Members**

- Bruce Lambert
- Bernadette James
- Jack L. Fried
- Austin Jenkins
- Jason Jin
- Mary Obenchain
- Rebecca Kuprowicz
- Cyndy Hummel
- Ken Carlson
- Albert Craig
- Walt Milowic
- Roxanne Alexander
- Marion Broadway
- William Butler Jr.
- Christa Ennis
- Katie Kennedy
- Marc Lovick
- John Nigro
- Mimi Quick
- Toni Steely
- Lela Walker



Membership applications may be mailed to:

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

## Tar Heel G & M Club October Meeting Minutes

Tuesday, November 16, 2010

Attendance: 30

Joe Moylan informed us that Walt Milowic was unable to attend the meeting till later.

People brought a onslaught of minerals for the grab bags to be put together. There was an array of various stones and minerals to be used.

George set off taking pictures of the bagging process and folks having way too much of a "rocking good time".

Joe called the meeting with the bagging of minerals/stones at 7:40 pm

Cyndy gave an example of what would go into the bags.

Joe addressed the Proposal of a book by Kenny Gay PG, Geologist/Mineralogist in Raleigh, NC. Kenny did a explanation about a probe. \$350. till the end of the 2010.

Joe presented that amount being voted upon.

George the newsletter editor suggested the amount of \$360. instead. Since it is by the hour.

Joe presented the vote there was overwhelming vote for the funds to be used.

Joe also noted about doing the regular business part done before the grab bags.

Appreciation goes to Jeanette about information she provided about the display cases.

Joe got a call from a Marcia Whitehurst interested in joining the club.

Corinne mentioned about the vote for the donations regarding \$500. to William Holland & Wild Acres.

Joe made a motion for a vote for the donations. The I's have the vote.

George second the motion. The motion carried.

Corinne mentioned that the tax papers would be on line for the club.

Joe inquired about who is running for the offices.

Joe then suggested that a delay on the voting till Jan.

George made a motion to allow to amend the by-laws till the election. The motion was seconded.

Bob made a motion to postpone the election till Jan. George seconded the motion.

\*Yes, this was one of those moments that the secretary had to think about how to write this one\*

George Harris won the door prize. He chose a calcite in fossilized shell from Florida.

The club adjourned to do grab bags.

And Walt showed up just in time.

There was a total of 594 bags completed. Whoo Hooo! Way to go club! Lets see if we can do this again come March??

Happy Rock Hounding

Happy Holidays Everyone!!

Obsidian Harris

## Pictures from Novmeber's Program



## President's Report

Continued from page 1

In any case, for our January meeting we will be having elections followed by a show and tell of rocks and minerals. So pack up a few hundred pounds of your best stuff to show off or maybe even get help in identifying some of those mystery rocks that have been sitting around the house.

## Window Displays

Continued from page 1

We have submitted a proposal to display in either the North or South Concourse Vitrines (glass cases) at the Raleigh Convention Center (500 South Salisbury Street, Raleigh, NC 27601). There are 12 double-sided display cases visible from the hallway or the meeting rooms (6 on each side of the building on the Salisbury Street entrance level). To see slides of previous exhibits in these cases go to: <http://www.raleighconvention.com/Gallery/gallery-center-art-partners2009.php>.

Currently, the Village of Yesteryear (which we know from the NC State Fair each fall) is displaying in all 12 cases. See their information on the Raleigh Convention Center's website:

I believe we are still looking for someone to fill the Secretary's position for sure and as always, we always welcome anyone to run for any position.

As I mentioned last year, we will try and have the show and tell first and then the election so that any children

that come to see the program will have the opportunity to leave early and not worry about getting up for school the next day.

I hope to see you all there on the 18th.  
Walt Milowic

<http://www.raleighconvention.com/raleigh-convention-art.php>.

If our proposal is accepted, we would have a similar write-up about our club on their website. The time period would be from late August/early September of either this year, or 2012, for a full year. We anticipate having a 2-3 day time period to set up the 5 or 6 cases and would need anyone who wished to display to come and help. The cases are 10 feet long, 18 inches deep (from hallway glass to meeting room glass) and 13 inches high. There are 5 high intensity lights inside each case that can be adjusted somewhat to angle the direction of light. We will have a plaque with our club logo and information in each case

and information signs for each item in each case. Business cards can be displayed if pertinent to the item displayed. If someone from the public wishes to purchase something from our cases, we would be notified to handle the sale and would need to replace the item to maintain a good display. Contact Jeanette Baugh if you have any questions ([villagegems@yahoo.com](mailto:villagegems@yahoo.com)).

Please, make an effort to visit this marvelous "art gallery" (public and free!) to see what an opportunity we have. Help us make this happen!



## November Door Prize - Calcite Clam Fossil

### Fort Drum, Florida

By George Harris

Calcite Clams are incredible fossils that can be found in a Florida rock quarry north of Lake Okeechobee known as Ruck's Pit - or the Fort Drum Crystal Mine. This is the only known location in the world where Calcite crystals of this size and quality grow inside fossil clams - some crystals exceed one inch in length. This location has produced high quality animal fossils, beautiful preserved shells and golden calcite crystals. Combinations of fossil and mineral are the rarest of finds. In 2008

the quarry known as Ruck's Pit was closed and allowed to flood.

The area north of Lake Okeechobee used to be flooded since it was so close to sea level. The best calcite clams from Ruck's Pit are found in the middle and lower sections of the Nashua Formation. The best specimens are the ones in the 'living' position. Living position means that the clam is vertical, not horizontal. Clams that were vertical allowed more material to get in for the growth of calcite crystals.

In the Pliocene and Pleistocene, the Nashua Formation was underlain by the

now-smaller Lake Okeechobee. Vast limestone deposits containing the remains of large bivalve mollusks developed calcite crystallization while still under water. The gemlike crystals were discovered after the hard limestone deposits came to be excavated for aggregate.

1. Petuch, Edward J., Robert, Charles (2007), *The Geology of the Everglades and Adjacent Areas*, CRC Press; Har/DVD edition.
2. Augutis, Scott (2007), *Calcite Clams of Florida*, Blurb.com.



## Precious Opals and Why They Display Color

By Sarah Lee Boyce and Carl Talbott  
Originally printed in the December 2010 Lodestar

Opal, a mineraloid of non-crystalline silicon dioxide and water, may be found in the fissures of common porous rocks such as sandstone, rhyolite, marl, and basalt as well as in fossils. Opal forms when large quantities of terrestrial waters wash over sandstone (or similar porous rock or fossil) and chemically weather it such that large quantities of dissolved silica percolate through the rock strata until it reaches an impervious level. As the silica solution comes to rest, it spreads out along this level, fills voids or cracks within the strata, and begins to solidify over time through evaporation.

Although Opal is said to have no crystalline structure, at the micro-level, one type of opal (known as Opal-AG) contains silica spheres with diameters on the order of 140 to 300 nanometers organized in a number of cubic or hexagonal close-packed-lattices (see Figure 1) that are several hundred times larger than the fundamental silica spheres. Water fills the space between the silica spheres, and when the spacing between packed planes of spheres is approximately one-half the wavelength of a visible light component, that wavelength light can be diffracted by the grating created by the stacked planes.

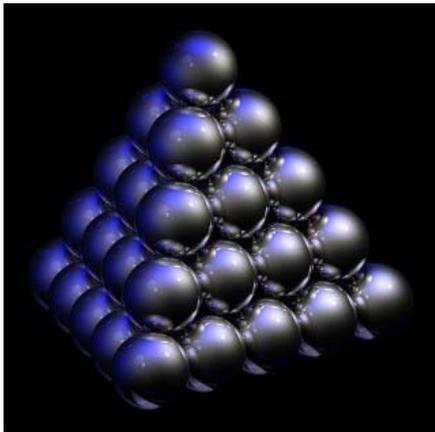


Figure 1:  
Close-Packed-Lattice Example

These internal colors, then, depend on the spacing between the planes (i.e. the size of the spheres) and their orientation with respect to light.<sup>1</sup> The observed color is related to the size of constituent spheres in each close-packed-lattice (i.e., blue wavelengths will be diffracted by the smaller sized spheres of approximately 140 nanometers diameter whereas red wavelengths will be diffracted by larger sized spheres of approximately 240 nanometers). First discovered and described by Australian researchers in 1965, this phenomenon is called a “play-of-color” or “fire” and is the hallmark of precious opal.<sup>2</sup>

Another type of opal (Opal-AN) is amorphous water-containing silica-glass, known as Hyalite,<sup>3</sup> which has a glassy and clear appearance with an internal play-of-color. Under long-wave blacklight, Hyalite glows bright green. If there is no presence of an internal play-of-color in either Opal-AG or Opal-AN, then these are called common opals even though the silica sphere structure may be present. The play-of-color in precious opal has color patches that often vary in size and shape and that change color as the direction of light sources, orientation of the opal, or direction of viewing is changed. This constitutes the opal’s “fire pattern” commonly classified into categories such as pinfire, flashfire, and harlequin.<sup>4</sup>

Since both Opal-AG and Opal-AN are both non-crystalline substances, in the presence of low levels of pressure or heat, they can gradually transform into Opal-CT and then into Opal-C both of which are micro-crystalline in nature where the spheres of silica grow into blades of cristobalite and tridymite. These forms of opal have no play-of-color (and therefore are not precious opal) because the close-packed lattice structure is disrupted by the microcrystalline growth. Such microcrystalline chalcedony, for example, can be found in the Monterey formation on the coastal regions of south and central California where

massive bands of opal have undergone this transformation.<sup>5</sup> Moreover, Oregon Thundereggs may have any one of a variety of Opal-CT

or Opal-C fillings that can be opaque blue, opaque red, translucent pastel blue, translucent yellow, translucent red, white, or colorless, and a small percentage may show a play-of-color being Opal-AG or Opal-AN.

In more recent news, NASA’s Mars Reconnaissance Orbiter (MRO) spacecraft has found evidence of hydrated silica (opal) on the planet Mars. According to Dr. Ralph Milliken of NASA’s Jet Propulsion Laboratory, the MRO has detected “numerous outcrops of opal-like minerals, commonly in thin layers extending for very long distances around the rim of Valles Marineris.” This suggests that water remained on the Martian surface for an extended period of time. “What’s important is that the longer liquid water existed on Mars, the longer the window during which Mars may have supported life,” said Dr. Milliken. Rockhounds, on the other hand, may have something else in mind rather than life on Mars.

### References:

1. Graetsch, H. (1994), "Structural Characteristics of opaline and microcrystalline silica minerals", "Silica, physical behavior, geochemistry and materials applications". Reviews in Mineralogy, Vol. 29, Editors PJ Heaney, Connecticut Prewitt, GV Gibbs, Mineralogical Society of America.
2. Downing, Paul B. (2007), Opal Identification and Value, Majestic Press, Estes Park, Colorado.
3. Pough, Frederick H. (1953), A Field Guide to Rocks and Minerals, Houghton Mifflin Co, New York.
4. Downing (2007), pp. 53-68.
5. Rogers, Austin F. (1928), "Natural History of the Silica Minerals", American Mineralogist, Vol. 13, pp. 73-92.

## Courses for Federation Workshop at William Holland, June 12-18, 2011

OPALS with Sarah Lee Boyce  
 CABOCHONS with Richard Shackleton  
 FACETING with Bill Roberts  
 FUSED GLASS with Renee Kelley  
 SILVER I with Don Roberts  
 WIRE I with Velima Lawson

CHAIN with Dee & Bill Conybear  
 ENAMELING with Bob Mattingly  
 LAMPWORK with Ann Royer  
 SEED BEADING with Barbara Green  
 SILVER II with Vicky Prillaman  
 SILVER FILIGREE with Shannon Stafford & Paige Worrick

### Enameling with Lynda Williams

#### At William Holland During Federation Workshop, Oct 9-15, 2011

Class Fee: \$65.00

Class Description:

This is a structured class for beginner's focusing on Scrafitto technique applied to copper. Only opaque enamels will be used. The class fee includes the first project consisting of three cut-out copper shapes and all enamels and jewelry components required to complete a piece of jewelry. Students will be taught how to manipulate and shape copper pieces into pleasing forms and how to handle enamels, their application, and firing in a professional and safe manner, thus ensuring a beautiful finished piece. Depending on how quickly students learn and complete their projects,

there will be time in the class for creating three more pieces of wearable art (or possibly more although the necessity of firing enamels between each coat to achieve the desired effect does lengthen the creative process).

There will be 8 different kits for students to choose from for purchase, at a cost of approximately \$22.00 to \$25.00 each. Each kit will include three copper components and all materials and enamels necessary to complete jewelry pieces ready for wear. Matching earring components will be included in the kits

Equipment and supplies to be brought by students:

Colored fingernail polish: 1 or 2 bottles of "weird" colors: black, purple, gaudy yellow, green, turquoise blue. Nothing "normal"  
 Scrafitto "tools": Hat pins, T pins, large needles. Anything that has a sharp point, from the size of a pin-head to that of a pencil point

Neck wires or chains so that you may wear and display your pendants

An optivisor will make your work easier.

Should you not have one, the school usually has some for sale.

## UPCOMING SHOWS

Feb 12-13, 2011: Merritt Island, FL -The Central Brevard Rock & Gem Club. Symphony of Gemstones, Kiwanis Island Park 951 Kiwanis Island. Hours: !2th & 13th 10-5.

Mar 4- 6, 2011: St. Petersburg, FL - The Suncoast Gem and Mineral Society. 41st Annual Gem, Jewelry & Mineral Show and Sale, The Minnreg Bldg, 6340 126th Ave N., Largo, FL 33773. Hours: Fri & Sat 10-6, Sun 10-5. Hourly Door Prizes & Grand Drawing at end of show! Free Parking. Contact Bill Schmidt, Show Chair, 727 822-8279 or [schmidwj@Eckerd.edu](mailto:schmidwj@Eckerd.edu)

Mar 11-13, 2011: Augusta, GA - Aiken Gem, Mineral & Fossil Society. 23rd Annual Aiken-Augusta Gem, Mineral and Fossil Show, Julian Smith Casino, 2200 Broad St. Hours: Fri & Sat 10am-7pm, Sun 10am-4 pm. Admission: \$3 Adult, children under 16 FREE with an adult. Contact: [www.aikengmfs.org](http://www.aikengmfs.org) or [www.augustagemandmineralsociety.org](http://www.augustagemandmineralsociety.org).

Mar 12, 2011: Bartow, FL-Imperial Bone Valley Gem, Mineral, and Fossil Society. Polk County Extension Service Building, Highway 17 S. Contact Cindy at 863-255-5256.

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

<http://www.amfed.org/> / <http://www.amfed.org/sfms> These are the official sites for the organizing body that the Tar Heel Gem & Mineral Club is founded under. I would strongly urge all members to check them out on a regular basis.

[http://www.amfed.org/sfms/lodestar\\_newsletter.html](http://www.amfed.org/sfms/lodestar_newsletter.html) The SFMS Lodestar Newsletter

<http://www.carolinageologicalsociety.org/CGS/Home.html> This site provides numerous downloadable field-trip guide books, maps, and charts of the Carolinas. It will prove to keep any avid rock hound busy for years. Great Site!

[http://www.ncminerals.com/ncmineralswebsite\\_files/page0011.htm](http://www.ncminerals.com/ncmineralswebsite_files/page0011.htm) And while we are on the subject, try this link. Its titled: Links of Interest to Rock hounds in NC; It will take you to a list of links for North Carolina gems and minerals.

<http://www.rocksforkids.com/> Just like the name says, A nice place to steer the younger members.

information & photographs of over 6300 specimens from the Glenn & Martha Vargas Gem & Mineral Collection.

<http://www.rockhoundlounge.com> Scott Laborde, a club member maintains his own web site that might be of interest to people collecting in and around Wake County.

[http://www.msnbc.msn.com/id/29726500/ns/technology\\_and\\_science-science](http://www.msnbc.msn.com/id/29726500/ns/technology_and_science-science) This site highlights a half dozen of the most recent significant fossil finds.

<http://appmodo.com/13971/mole-quest-for-the-terracore-gem-app-review-for-the-iphone-and-ipod-touch/> If you have an iphone or an ipod touch, this rock-hounding may be the game for you.

I would like to encourage all members of the THG&MC that maintain their own presence on the internet to send me a link to their site to be published in future Vugsites so that other club members may learn and enjoy the craft, the art, the interests that many of us have in common.

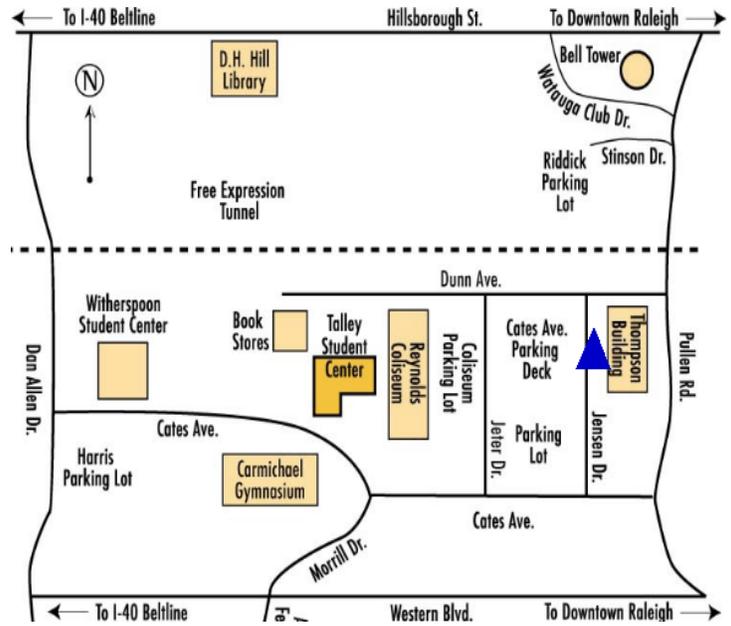
Park in the Cates Ave. Parking Deck off Jensen Dr. Enter Thompson Building directly across from the parking lot.

# Our Next Meeting is January 18, 2010 @ 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

