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THE  
NEWSLETTER  
OF THE  
NORTH CAROLINA  
FOSSIL  
CLUB

NUMBER 16

SEPTEMBER, 1984

## FALL SCHEDULE

The following trips are scheduled for our fall fossil-hunting season:

Sept. 8 .....Texasgulf, Aurora  
Sept. 22 ....Martin Marietta, Castle Hayne  
Oct. 6 .....Fussell's, Rose Hill  
Oct. 20 .....Texasgulf, Aurora  
          \* Annual Meeting & Pig Pickin'  
Nov. 3 .....Texasgulf, Aurora  
Dec. 8 .....Texasgulf, Aurora  
Dec. 9 .....FOSSIL FAIR, New Bern

We will meet at the gate of each quarry by 9:00 am on the day of the trip. All NCFC members and guests will be required to sign in at the gate (remember, no guests are allowed at Texasgulf). Sturdy shoes are recommended (sneakers are not sturdy), and at Martin Marietta and at Fussell's hard-hats will be required.

Texasgulf has reinstituted its policy that no one under the age of 18 will be permitted into the mine. NCFC President Frank Hyne asked TG officials if some of our young members could go in if they were closely supervised by their parents, but TG replied that they would allow no exceptions. (We're sorry; it's their rule, not ours.) Kids are allowed at Martin Marietta and Fussell's, and at TG's recreation center, so we encourage members to bring their families for the pig pickin'.

TG is still taking visitors into the mine by bus; be prepared to leave your car in the parking lot. Pack something to drink into the mine with you, though. Please don't ask Pete Harmatuk to ferry you back and forth to the parking lot.

## FOSSIL FAIR

We are planning a Fossil Fair in New Bern on Sunday, December 9th. This will be a little different from past Fossil Fairs; it will be separate from our annual meeting, and we hope the New Bern location will attract more people than just our club members. Paleontologists from the Smithsonian and other experts from area universities will be on hand to identify fossils.

We want to strongly encourage you to make plans to attend; in particular, we'd like as many of you as would to bring your collections to display, so visitors can see a variety of fossils. If you don't want to display, come anyway; enter a drawing to win a big shark's tooth. If you have to drive a long way, consider coming for the TG trip on Saturday and spending the night in New Bern; NCFC members will probably meet for dinner together Saturday night. Bring your fossils Sunday to be identified, and see other people's collections.

More details on the exact time and place will be printed in the next newsletter.

## TG TORTOISE

A 700-lb. plaster-jacketed turtle shell that Pete Harmatuk (aided by a TG crew) recovered from the Lee Creek Mine has been identified by Smithsonian staff as a land tortoise, and though the top was somewhat crushed, it is essentially complete. The shell is approximately 2 feet across and almost 3 feet long. Dr. Clayton Ray, Smithsonian paleobiologist, calls it "by far the best fossil of a land animal of any kind recovered thus far from the Mine."

Fossils of land animals are occasionally collected at TG; some, like the mammoth teeth, are from the Pleistocene overburden. Others, like this tortoise, are from the marine sediment of the Yorktown, and presumably were washed out to sea during the late Miocene.

## LETTER FROM THE PRESIDENT

Texasgulf was founded 75 years ago and until the mid-1960's was a one-product company, producing and marketing sulfur. In the late 1950's TG, as well as other companies, began exploration in N.C. for phosphate, a necessary ingredient in fertilizer. The company, now owned by the large French international oil company, Elf Aquitaine, has consolidated all of its Texasgulf chemical activities into one company, Texasgulf Chemical co., and its headquarters are in Raleigh. The Lee Creek fertilizer complex is now the largest phosphate mine in the U.S., has the largest sulfuric acid plant in the world, and has the world's largest dragline specifically used to dig phosphate (72 yards).

TG can produce enough phosphate fertilizer to supply all the farmers from Maine to Florida on the Atlantic coast plus the farmers in Penn., Ohio, and West Va. That is over 20% of all the phosphate used in the U.S. last year.

TG is greatly concerned about the environment and as far back as the early 1960's, long before it became a popular issue as it is today, TG established an environmental department to ensure that the land, water, wildlife, and the atmosphere would be protected.

The Lee Creek Mine area is about 10 feet above sea level. After the trees and other vegetation are removed, dredges are used to remove the surface material and the under layers down to the "bench", the solid layer that will support the heavy dragline after drying out. The dredge is 30" and removes the overburden to a depth of 30 to 40 feet in a block about 80 acres in area. Floating dredges can cut in marshy ground and send the removed material for great distances as is required, aiding in restoring mined areas and not endangering the phosphate ore layer by slumping spoils piles. They can also aid in the draining by cutting channels and ditches.

The dragline is used to remove the lower overburden and recover the ore. This overburden is piled on the mine floor and is where we find our fossils. The general age of the fossils is 5 million years old (from the Yorktown Formation) and up to 12 million years old; some reworked fossils are even older. The reworked fossils are fossils that have been washed down from other locations. The piles of phosphate are made on the top of the bench and are then washed into large pipes to be transported as slurry to the mill to be processed. The mine is kept dry by water wells located on three sides of the mine; this water is fed

into ditches and is used in the entire mining and processing operation and keeps the mine dryer in the process. This does, of course, lower the water table, but TG provides deep wells to replace any nearby shallow wells that run dry. The company uses extreme care not to damage the Castle Hayne aquifer that underlies the mine.

All of us members of the North Carolina Fossil Club should be extremely thankful for the warm hospitality the Texasgulf Co. has extended to us in letting us go into the mine and for letting us use their building for our annual pig picking. Special note should be given to Mr. Jerry Hughes in the handling of our visits to the mine and the many other courtesies he and the company have extended to us.

NOTE: A number of members have brought to my attention that some of us have been guilty of littering in the mine. I think each of us should carry out of the mine everything we bring into the mine and to be sure none of us leave anything in the parking area.

*Frank*

Frank Hyne

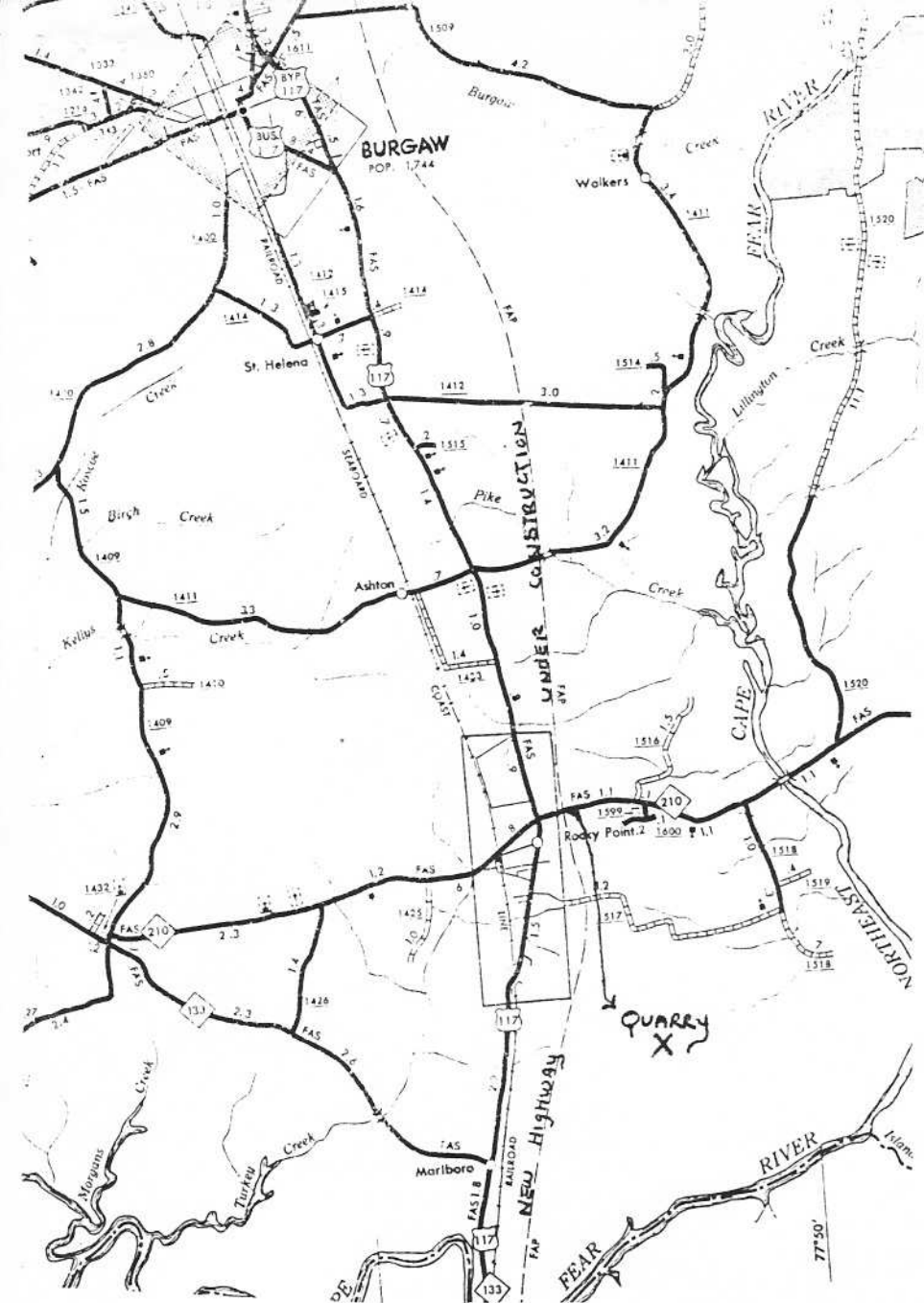
## ELECTIONS

At our annual meeting on October 20th we will hold elections for 4 positions on the Board of Directors and for NCFC president. Running for re-election to the Board are:

Doug Nunnally  
Trish Kohler  
Betty Owens  
Becky Hyne

Frank Hyne is up for re-election as President. The floor will be open for nominations at the meeting, so if you're interested you can get yourself nominated.

The following Board members have served one year of their two-year terms and will serve until next year's election: Carolynne Hertenstein, Tom Burns, Randy Scott, and Jim Knowles.



This map shows the location of the Martin Marietta quarry at Castle Hayne.

#### DUES NOTICE

NCFC membership dues for next year, 1985, can be paid any time between now and the end of this year. Dues must be paid by the end of 1984 or you will not receive a schedule of the spring 1985 trips.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

Type of membership(s): Individual (new)	\$10.00	_____
Individual (renewal)	5.00	_____
Spouse	2.50	_____
Junior	1.50	_____

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Mail to: North Carolina Fossil Club  
P.O. Box 92  
Cary, North Carolina 27511

PLEASE! Memberships cannot be accepted at the site on the day of a trip.