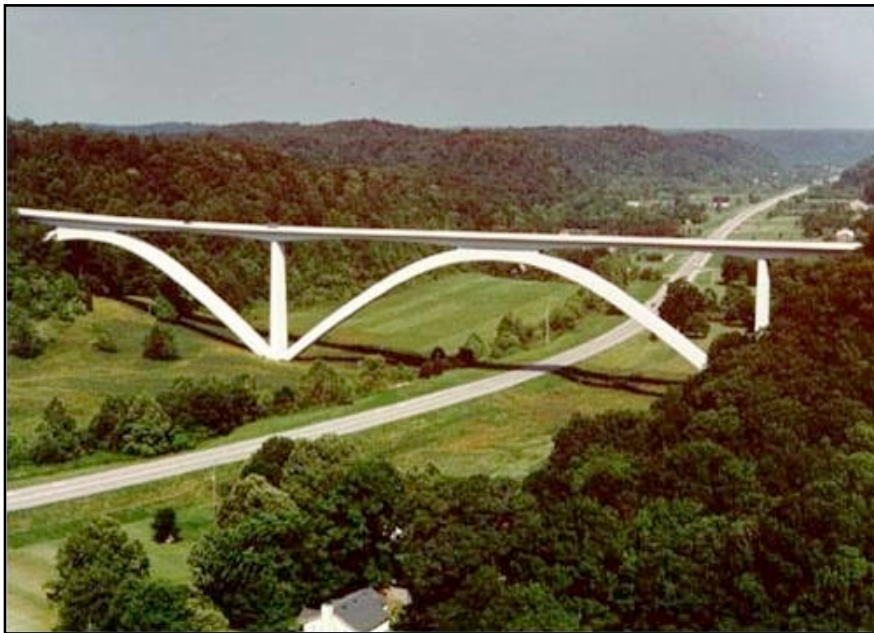




Volume 58 ◊ Number 03 ◊ March 2012 ◊ A monthly newsletter for and by the members of MAGS

Natchez Trace Parkway Geological Resources

Ronald P. Zurawski



My talk will focus mainly on the portion of the Natchez Trace Parkway that traverses Middle Tennessee and the northern parts of Alabama and Mississippi. I will begin by discussing the Coastal Plain, Western Highland Rim, and Central Basin physiographic prov-

inces. For each I will also talk about the geology and geologic ages of the various sediments and formations found within each region. Included will be a more detailed discussion of the specific rock types, with examples of each, *Continued, P. 3*

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June North Carolina Field Trip Schedule *Charles Hill*

Hi again, everyone. This is an update on the North Carolina trip that is planned for June, 2012. I have an itinerary partially completed. I had a tentative one planned for the entire week, but then I got in touch with Rick Jacquot, one of the founders of North Carolina's Mountain Area Gem and Mineral Association (M.A.G.M.A.). He has agreed to look at the itinerary and perhaps pick some sites that his

club visits. However, I do have some dates set in stone and here they are:

Saturday, June the 16th will be a travel day. I hope to have a club gathering at the Huddle House in Franklin that evening.

Sunday, June the 17th will be Chunky Gal Mountain, which was highlighted in the September 2011 newsletter. *Continued, P. 4*

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News ♦ A monthly newsletter for and by the members of MAGS

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Show Chairman—W. C. McDaniel

2038 Central Avenue, Memphis, TN 38104 ♦ (901) 274-7706 ♦ w.c.mcd@att.net

Field Trip Bulletin

Friday, March 30, through Sunday, April 1, 2012

Collecting site: Sites in the Park Hills/Farmington/Potosi/Cadet areas of Missouri, including the Missouri Mark Twain National Forest and private property. Area also includes mineral museum, glass factory, and antique malls.

Minerals: We will be collecting drusy quartz, Washington County agates.

FRIDAY, March 30 Mid afternoon—collecting-site/time to be determined

SATURDAY, March 31 Primarily collecting drusy quartz. Possible multiple sites

SUNDAY, April 1 Group decision

Specific meeting times and location will be distributed to current dues paid MAGS members via email or membership meeting

For more information, contact field trip leader W. C. McDaniel at (901) 274-7706 or w.c.mcd@att.net.

NOTE TO JUNIORS AND THEIR PARENTS

April 28 and 29 are the dates of this year's Show. The RockZone (the kids section) needs lots of help. We hope that you will volunteer for both days. Help with our gem/fossil dig, geode bowling, Rocks Around the Clock, and the pebble toss. Being part of the Show is always fun. Sign up at the March meeting.



Links to Federation News

"A Celebration of Agates," an international symposium and show, will be held in conjunction with the American Federation of Mineralogical Societies (AFMS) annual convention this July in Minnetonka, Minnesota. Event registration forms and hospitality information are available online at minnesotamineralclub.org/2012show.htm, or you can call Sandy at (651) 459-0343 or Phil at (763) 717-1641. You can find more information on this and other Federation news at these links.

➔ AFMS: www.amfed.org/afms_news.htm

➔ SFMS: www.amfed.org/sfms/

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Natchez Trace Parkway for those who may not be familiar with the terminology.

I will then turn my attention to the numerous fossils found in the rocks and sediments crossed by the parkway. Included will be a detailed discussion of the more common fossils present in the Coastal Plain, as well as on the Western Highland Rim and in the Central Basin. Examples will also be shown for each of the major groups discussed.

I will conclude my presentation with a discussion about the mineral resources that occur in the region. I will focus specifically on those that are found in the vicinity of the parkway. Examples of each will be shown, and a brief history of their development will be discussed. Also included will be a few stops along the parkway where

abandoned mines and iron furnaces can be observed.

Editor's note: *Dr. Zurawski is State Geologist and Director, Tennessee Division of Geology. He can be reached at (615) 532-1502 or Ronald.Zurawski@tn.gov.*

What's Happening At Chucalissa?

Rachael South Bogema

We have plenty of great activities and special events happening at Chucalissa during March! Lace up your running shoes and come out to participate in our 14th Annual Relic Run 5K Race, held on Saturday, March 3 at 9:00 A. M. Starting at the C. H. Nash Museum, the 5K course winds through the scenic woods of Chucalissa and T. O. Fuller State Park. View the beauty of the area from the accessibility and safety of a

paved road. Walkers, wheelchairs, strollers, and families welcome! No pets please. Pre-registration available before February 29 on racesonline.com.

On March 17, we will be hosting our monthly Volunteer Days from 9:00 A. M.- 1:00 P. M. Come out and volunteer for a few hours or the entire morning! We have plenty of special projects to work on, including cataloging artifacts for an inventory of our repository, working outside to clear our nature trail, and helping our staff develop our traditional plant sanctuary. All ages welcome; no experience is necessary! For more information on these and other events, please contact us at (901) 785-3160, or at resouth@memphis.edu. We hope to see you soon at the museum!

Best,

Rachael

HELLO MAGSTERS !!!

**IT'S REALLY THE NEW YEAR,
SO, IT'S TIME FOR YOUR DUES, DEAR !
SO TO MAKE EVERYTHING PERFECTLY CLEAR,
AND SO WE WON'T HAVE TO RATTLE OUR SPEAR,
PLEASE SEND MONEY, AND SKIP ALL THE FEAR
OF MISSING THE FUN, AND THE TRIPS,
AND THE CHEER !**

**Individual dues are \$20.00, Family dues are \$25.00.
You can mail dues to MAGS, 3982 Glendale Dr., Memphis, TN
38128, or bring them to our monthly meeting.**

THANKKEW VURRY MUCH !!!

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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NC Trip Schedule Monday the
Continued from P. 1 18th will be The
Sheffield Mine.
Let me add a footnote here that,
due to many requests, there will be
two trips to Sheffield. The second
one will be at the end of the trip.
The Sheffield Mine was high-
lighted in the August 2011 newslet-
ter

Tuesday, June 19th, will be the
waterfall tour. The waterfall tour
was highlighted in the October
2011 newsletter.

The M.A.G.M.A. club man-
ages the Crabtree Emerald Mine.
I have told Rick we would like to
include that site, and I also asked
him to lead the field trip on that
day. I have never been to Crabtree
so I am excited about going there.
Rick tells me that emerald finds
are rare, but his club members are
finding tourmaline and yellow
beryl there.

Franklin, North Carolina, will
be the hub for this field trip be-
cause it is a central location for
most of the sites we will visit. If I
can get a firm head count, I will
call around and ask for discounts
on hotel/motel rates. Most morn-
ings during the trip we will be hav-
ing meeting at various Huddle
Houses. For example, the morn-
ing of the Chunky Gal trip we will
meet at the Huddle House in
Waynesville. I plan to ask them
for coupons or a discount, so I
need a firm head count. I have
spoken to staff at some of the gem
hunting sites, and they have
agreed to group rates. If you plan
to go, please call or e-mail me so
that I will know with some cer-
tainty how many to expect. My
cell phone number is

(901) 626-4232, and my e-mail is
hunter3006@aol.com. If you use
e-mail, please put "North Carolina
Trip" in the header.

Thanks,
Charles

Juniors Corner

Carol Lybanon

A special thanks to the Uni-
versity of Memphis Egyptology
Graduate Students Association for
giving us a fun program on hiero-
glyphs. In March the Juniors will
do a couple of projects for our
April Show. Remember the Show
dates, April 28 and 29. We need
volunteers, both Juniors and
adults. Please sign up (see P. 5 of
this issue for more information).

January 2012 Board Minutes

Marc Mueller

The MAGS Board of Direc-
tors met January 5 at the St. Clare
Room in St. Francis Hospital, 5959
Park Avenue. The meeting was
called to order at 6:30 P. M. Pre-
sent were: Lou White, Paul Sides,
Doris Jones, Carol and Matthew
Lybanon, Alan Schaeffer, Marc
Mueller, Neville Mayfield, Charles
Hill, Ron Brister, Mike Baldwin,
Bob and Bonnie Cooper, W. C.
McDaniel, and Nannett McDou-
gal.

Secretary: December minutes
were approved as corrected.

Treasurer: Report presented.
Bank has begun to charge monthly
fees on MAGS accounts. Direc-
tors voted to transfer accounts
from First Tennessee to Regions

Bank. Dues were received from
W. C. McDaniel (\$25), Nina Rid-
ing (\$25), Charles Hill (\$25), and
Nannett McDougal Dykes (\$20).

Field Trips: Chucalissa trip on
January 21st. Charles Hill is work-
ing on an itinerary for the North
Carolina trip.

Adult Programs: In January,
Alan Schaeffer will present Fluo-
rescent minerals. For February,
Dr. Susan Kus, an ethno-anthro-
pologist, from Rhodes College,
will talk on Madagascar. March
Program is still open; phosphate
mines in Tennessee is an option.
May, Dr. Mike Gibson tentatively
will talk about Colorado.

Junior Program: . January,
Sherry Baldwin will do fossil clean-
ing. February, University of Mem-
phis graduate students will present
Egyptology. March will be a Show
program, bag decorating and post-
ers. April, Mike Baldwin will con-
duct the Indian drums workshop
again. Please collect coffee cans
for drum construction. The May
program will be a project related
to Mother's Day. Everyone check
Dollar Store for shadow boxes.

Webmaster: Newsletter is on-
line. Wells Creek is one of the few
sites in the world that have shatter
cones.

Library: January is the month
for inventory.

Historian/Rock Swap: Discus-
sion regarding reducing the num-
ber of rock swaps to three.

Newsletter: December News-
letter is ready. Deadline Decem-
ber 18 for January newsletter.
Please send any schedules.

Rock Show:
Next meeting

Continued, P. 6

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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Countdown To Show

**2012 Show Needs Your Help
MAGS MEMBERS
IT IS YOUR TIME AND YOUR TURN**



58 days and counting (as of March 1, 2012)

Ways and things you can and should do to help the show

1. Donations—needed items

- Coke products including water, can or small bottles; no 2 liter bottles
- Plastic table covers (54 inches x 108 inches) white, red or black
- 11x14 precut photo mats with mat board backing
- Material for RockZone

2. Adopt a hospitality bag—help provide a show benefit

- For vendors and exhibitors
- Pick up empty bag at March or April membership meeting
- Pack bag with nonperishable packaged snacks, crackers, nuts, candy; no drinks in bags
- Bring bags to show by Friday, or you bring items for the bags and the show will pack

3. Show tickets—Provides MAGS members the opportunity to promote the show by distributing tickets to the general public. Ticket procedures:

- Available for use by current MAGS members. No exceptions.
- Member must sign each ticket. One admission per ticket.
- Ticket holder is admitted free to show.
- You are not responsible for tickets that are not used.
- At the conclusion of the show each member must pay—by June 1—the show \$2.00 for each redeemed ticket. After June 1 you must pay \$3.00 for each redeemed ticket.

4. Handouts—market the show

- Notepads
- Show Tickets
- Small poster
- Rockzone
- Speakers and Demonstrations

5. Volunteer—sign up as the show needs a lot of help

| <i>Volunteer MAGS Volunteer Work Schedule</i> | | |
|---------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Day</i> | <i>Hours</i> | <i>Activities</i> |
| <i>Thursday, April 26</i> | <i>9am-6pm</i> | <ul style="list-style-type: none"> • <i>Tables delivered, shed contents delivered, Show layout</i> • <i>At 6:00 pm grab bag packing and pizza party</i> |
| <i>Friday, April 27</i> | <i>9am-9pm</i> | <ul style="list-style-type: none"> • <i>Complete show layout</i> • <i>Dealers move in</i> • <i>6:30 pm show dinner</i> • <i>Clean up and final preparations</i> |
| <i>Saturday, April 28</i> | <i>9am-6pm</i> | <ul style="list-style-type: none"> • <i>Show opens to public</i> • <i>Large number of volunteers needed every hour for ticket booth, info/member desk, RockZone, general show support</i> |
| <i>Sunday, April 29</i> | <i>10am-8pm</i> | <ul style="list-style-type: none"> • <i>Show opens to open public</i> • <i>Large number of volunteers needed every hour for ticket booth, info/member desk, RockZone, general show support</i> • <i>Show breakdown, clean up—need lots of help</i> |

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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January Minutes Monday, January 9, at Agricenter. Notepads have been printed and are available now. Fifteen contracts are signed. January 14 will be a work day at the storage facility to inventory supplies.

New Business: Chucalissa wants a club or show poster for display. Earth Sciences at the University also.

New Dealers, 2012 Memphis Mineral, Fossil, and Jewelry Show

| name contact with phone | email and/or web | primary products | special products |
|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Carved Opal and Obsidian Larry and Pamela Castle Austin, Texas (210) 326 0067 | www.coando.com | 1. Minerals 2. Fossils | 1. carvings in semiprecious minerals, fossil ivory and opal gem opal mosaic turtles 2. |
| Dave's Rocks and Carvings David and Bridget Ennis Hamburg Michigan (484)459-1000 | info@davesrocksandcarvings.com www.davesrocksandcarvings.com | 1. Minerals 2. Rocks 3. Fossils | 1. animal carvings 2. polished stones 3. rough stone 4. cave in rock fluorite(old collection) 5. growth interference quartz from Russia |
| Moorehead Enterprise Bob Moorehead Hanover, Michigan (517) 688-3436 | | 1. Jewelry 2. Lapidary supplies | 1. new and used machines 2. laps 3. misc. tools |
| Ebbo Products Kevin Holowchik, Trinity Poole Memphis, Tennessee (901) 278-1715 | ebbossh@gmail.com | 1. Minerals 2. Jewelry | |

Jewelry Bench Tips by *Brad Smith*

PROBLEMS WITH SMALL DRILLS

When drilling small holes, you sometimes encounter new problems. We're talking about drills that are less than 1 mm (which is 18 gauge or .040 inches). Often the chuck will not tighten down far enough to grip a small twist drill. You can solve this two ways—with a chuck adapter or by buying your small drills with a 3/32 inch shank size. Either way you have a 3/32 shank to go into the chuck of your drill press, Freedom, or Dremel, so changing bits is fast and easy.

Remember that small drills are much more prone to breaking because of too much pressure or if

you tilt the drill or the workpiece when the drill is in the hole. And drilling always goes easier with a little wax or oil on the tip. Almost anything will work—Three in One, injection wax, mineral oil, Burr Life, car oil, olive oil, etc.



Drill Chuck Adapter

USING PRE-MADE BEZEL CUPS

As a general rule of thumb I assume it's going to take me 15-20 minutes to make a bezel for an ordinary cabochon, so for some projects buying pre-made cups can save a lot of time. But if you go this route, keep in mind three things. First, try to get cups made from fine silver, not sterling. Remember that fine silver is softer and burnishes over the stone more easily.

Second, you may have trouble matching the shape and size of the stone with the shape and size of the bezel cup. Purchased cups can only be found in a limited number of standard sizes. You may have to adjust your choice of gemstone to

Continued, P. 8

SFMS and Area Events, March and April



24th annual Aiken–Augusta

Gem, Mineral & Fossil Show

March 9–11, 2012

Fri & Sat 10AM–7PM Sun 10AM–4PM
(FRIDAY, MARCH 9 10AM–1PM: SCHOOL TOURS)

JULIAN SMITH CASINO • 2200 BROAD ST. • AUGUSTA, GA

Admission: \$3 Adults
Children under 16 FREE with an Adult
Look for a 50¢-off admission coupon on our websites

EXHIBITS
DEMONSTRATIONS
EDUCATIONAL RESOURCES

50¢ Grab Bags ♦ Hourly Door Prizes
25¢ Kid's Treasure Dig ♦ Geode Sawing

Low, Low Prices on Gold and Silver Jewelry,
Loose and Set Gemstones, Gorgeous Fossils, Mineral Specimens,
Beads, Lapidary Supplies, and More!

Sponsored by the Nonprofit Organizations:

Aiken Gem, Mineral and Fossil Society
<http://www.aikengmfs.org>

and

Augusta Gem and Mineral Society
<http://www.augustagemandmineralsociety.org>

Information and Group Reservations: H. Kunis (706) 855-7357

Affiliations:

American Federation of Mineralogical Societies
Eastern Federation of Mineralogical & Lapidary Societies
Southeast Federation of Mineralogical Societies, Inc.

Concessions benefit
Relay for Life



some newer areas for digging as well, which should make it easier for everyone to find some nice specimens.

McRocks is a web-based group of rockhounds, not a club. MAGS members have joined McRocks there before. MAGS and McRocks member James Johnson passed along the invitation from McRocks. You can find more information on McRocks at their website, www.mcrocks.com.

April 14

The Central Arkansas Rock, Gem and Mineral Club (CAG-MAGS) of Little Rock invites MAGS members to attend their 2012 annual swap meet on April 14 at Burns Park in North Little Rock. The idea is to try and get rockhounds from all over the area to come together for fun, trading, and great fellowship. The Central Arkansas club along with other clubs from the area will have rocks, minerals, fossils and other related items for sale or trade. Bring along your own items for free identification or trading. Admission is free, so just come and see what kinds of wonderful items can be found in Arkansas. You can talk to some great people with a lot of knowledge of geology and the hobby of rock collecting. You can get information about or join the Central Arkansas Gem, Mineral and Geology Society.

April 7-8

MAGS members are invited to join with McRocks at a joint dig for fluorite at the Eureka Mine in Marion, Kentucky. The dig will take place on Saturday and Sunday, April 7th and 8th. McRocks will perform a machine dig the weekend before to clean out the mine and open up

There is no charge to attend or set up a table for trading or selling. There is a large covered area with picnic tables and also more space *Continued, P. 8*

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March/April Events in the parking lot for those who want to tailgate. Indoor restrooms are next to the location along with a playground for children. Snacks and drinks will be available. Bring something to trade or just come to look around and meet other rockhounds, you are sure to have a great time.

The swap is from 8:00 A. M. till 5:00 P. M. Take exit 150 (Military Drive) from I-40, go north ¼ mile, take the first left, and go about ¼ mile to the end of the road. The swap is at the Elder Johnson Pavilion just past the park visitor center. There are signs with maps located along the roads.

For more information, contact CAGMAGS President Mike Austen at (501) 868-4553 or steelpony@aol.com.



Jewelry Bench Tips

Continued from P. 6

match the cup. The other consideration is that pre-made cups often have fairly low side walls. While these are fine for low-dome stones, they will not adequately secure stones with steep side walls.

Lastly before setting, check the fit of your gemstone in the cup, particularly around the bottom. The bottom corners of a stamped cup are much more rounded than a bezel you would fabricate yourself. This causes a problem with some stones. If your stone has a sharp edge around the bottom, burnishing over the bezel will place a lot of stress on the stone and may cause it to crack. To avoid this, I round off the bottom edge of the stone with a diamond file (or use sandpaper on soft stones).

More BenchTips by Brad Smith are at groups.yahoo.com/group/BenchTips/ or [facebook.com/BenchTips](https://www.facebook.com/BenchTips).

Archaeological Excavation Without Digging

The University of Texas at Austin Maya Muon Group is

building particle detectors that can be deployed underground to track cosmic-ray muons and reconstruct large-scale tomographic images of the overlying ground and structures. The Maya Muon Group has found that underground muon tomography is a practical tool for investigating large structures.

The first major experiment of the Maya Muon Group will bridge the disciplines of physics and archeology. The particle detectors and related systems are designed specifically to explore ruins of a Maya pyramid in collaboration with colleagues at the UT Mesoamerican Archaeological Laboratory. The Maya Muon Group will travel to La Milpa in northwest Belize to make discoveries about "Structure 1"—a jungle-covered mound covering an unexplored Maya ruin.



Cosmic ray muons are penetrating charged particles which arise from decays of other particles when high energy "primary" cosmic rays collide with atomic nuclei in the upper atmosphere. Muon tomography measures the rates of cosmic-ray muons detected underground at diverse angles and locations. The Maya Muon Group's technique will use the methods of computer-assisted tomography (CT) to create a 3D image of the overburden.

In the 1960s, L. W. Alvarez and co-workers invented muon tomography to study the internal structure of the Second Pyramid of Chephren. They used naturally occurring cosmic ray muons to "x-ray" the pyramid in the hopes of finding undiscovered chambers. The Alvarez group established the feasibility of muon tomography by observing the meter-scale limestone caps on the outside of the pyramid. Their principal scientific discovery was definitive, but negative: there are no additional chambers inside Chephren's Second Pyramid.

Using improved technology and techniques standard in particle physics, it is possible to detect *Continued, P. 10*

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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| | | |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | <p>Dixie Mineral Council Field Trips The Southeast Federation of Mineralogical Societies, Inc DMC Program of the SFMS Field Trip Committee - Copyright © All rights reserved.</p> |  |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

DMC Program of the SFMS Field Trip Committee

An Official Field Trip of the **Tennessee Valley Rock and Mineral Club**
(Chattanooga, TN) (HOST)

An Official Field Trip of the Memphis Archaeological and Geological Society

9:00 AM Central Time
Saturday, March 24, 2012
Rose Creek, Cumberland Plateau
Gruntli, TN

Place: Rose Creek, Cumberland Plateau, Gruntli, TN

Time: Saturday, March 24, 2012, 9:00 AM Central Daylight Saving Time

Cost: Free

What to find: large fern and tree bark fossils of the Mississippian and Pennsylvanian eras in black and red slate.

What to bring: gloves, buckets, pry bar, rock hammer, change of clothes (it will be wet), newspaper to wrap fossils, drink and food. There are no food services.

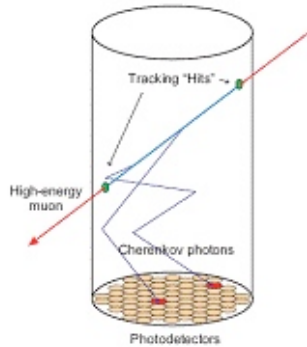
Directions: Meet in Hardee's parking lot in Monteagle, TN, on I-24. Top of Monteagle, exit #134. Will leave for the site promptly at 9:20 Central Time. Don't be late ...

For further information call Dennis Nixson (423) 702-1373.

UT Maya Muon Tomography, *continued from P. 8*

underground muons and to measure their trajectories with sufficient accuracy to point back to meter-scale structures as far as 50-80 meters away from the detector. To achieve muon detection rates large enough to be practical—exposure times measured in weeks to months—the detector system must have a sensitive area of several square meters. A system of moderate complexity—of order a thousand channels of information—is needed to track the muons with sufficient pointing accuracy. While large in comparison to traditional monitoring equipment, this scale detector is

modest by contemporary standards in particle physics.



The research team consists of Roy Schwitters and Austin Gleeson, physics professors at UT-Austin, and several graduate students.

Calendar

March 1, 2012

Board Meeting, St. Clare Room, St. Francis Hospital, 6:30 P. M.

March 3, 2012

14th Annual Relic Run 5K Race, C. H. Nash Museum, 9:00 A. M.

March 5, 2012

ShowTeam meeting, Agricenter International, 6:30 P. M.

March 9, 2012

Membership Meeting, Shady Grove Presbyterian Church, 7:30 P. M.

March 17, 2012

Volunteer Day, C. H. Nash Museum, 9:00 A. M.-1:00 P. M.

March 30-April 1, 2012

Field trip, Park Hills/Farmington/Potosi/Cadet areas of Missouri

Memphis Archaeological and Geological Society
2019 Littlemore Drive
Memphis, TN 38016

