



Volume 59 ◊ Number 04 ◊ April 2013 ◊ A monthly newsletter for and by the members of MAGS

The Earth Wide Open

April 12 Membership Meeting: A Mini-Show Involving Members



The 34th Annual Memphis Mineral, Fossil, and Jewelry Show will be on Saturday and Sunday, April 27 and 28. But MAGSers can get a preview at the April 12 meeting. Tables manned by Show Committee members will represent the Show's tables, booths, and activities.

The program will take the

form of a game. Each Member will receive a "show tour ticket" that they will carry around to each table (Admission, Information, Dealers, Exhibitors, Demonstrations, Hospitality, RockZone). At the end of the program each Member will receive a piece of petrified wood and be entered into a drawing for other prizes.

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MARCH 9 FIELD TRIP

Marc Mueller

About 50 people from the combined groups of Middle Tennessee Gem and Mineral Society, Tullahoma, MAGS, and Georgia Mineral Society gathered near Erin, Tennessee, for a trip to the Wells Creek Meteor Impact Site. Retired state geologist Marvin Berwin explained the route to the center of the crater. Charles and Lori Carter from the Georgia group,

who were on the MAGS trip last year, organized this trip. They are also MAGS members and they made a donation to the Earth Wide Open Show. MAGS members Marc Mueller and Mike Baldwin became members of the Georgia Mineral Society by the end of the day. In the afternoon, the group gathered slag glass at Cumberland Furnace.

See field trip pictures on P. 3.

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

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PRESIDENT'S MESSAGE

Hey, MAGS Rockhounds,

Spring is here. Weed out those rock gardens and get ready to create a new one. You will undoubtedly find all kinds of rocks, minerals, and fossils on this year's field trips. You may even want to build a rock wall, something that's a permanent work of art and beauty, for generations to enjoy.

Don't forget: April is right around the corner. Our annual Mineral, Fossil, and Jewelry Show would be the place to go for some unusual and hard-to-find rocks, minerals, and fossils.

Spring into Rockhounding,
MAGS President
W. Paul Sides

Please contribute articles or pictures (everybody likes pictures) on any subject of interest to rockhounds. If it interests you it probably interests others. The 15th of the month is the deadline for next month's issue. Send material to lybanon@earthlink.net.

April DMC Field Trip

WHERE: Burgin Quartz Mine, Norwood, NC

WHEN: Saturday, April 20, 9:00 A. M.-3:00 P. M.

COLLECTING: Quartz crystals

INFORMATION: David Long, (704) 860-1025 or david28054@carolina.rr.com

May SFMS Field Trip

Registration required; attendance limited to 120

WHERE: Glendon Quarry, Glendon, NC

WHEN: Saturday, May 4, 8:00 A. M.-3:00 P. M.

COLLECTING: Specimen/cabinet grade pyrite, fluorite

INFORMATION: Jim Flora, jimflora@windstream.net or sfms@amfed.org

Links to Federation News

- ➔ AFMS: www.amfed.org/afms_news.htm
- ➔ SFMS: www.amfed.org/sfms/
- ➔ DMC: www.amfed.org/sfms/_dmc/dmc.htm

Wells Creek-Cumberland Furnace Field Trip Pictures



MAGS Archaeology Group Meeting

Robert Connolly

On March 23rd we held our first MAGS archaeology group artifact analysis day at the C. H. Nash Museum. The purpose of the group is to work on the analysis of collections from Tennessee that are curated at the C. H. Nash Museum and to create exhibits for area libraries and museums. For about half of the four-hour session we talked about what we intended the long-term scope of the project. We toured our repository and noted all the materials we curated that had never been analyzed or reported to the public—some collected in MAGS projects from the 1950s. The participants real-

ized that they had plenty of "job security" in this monthly activity.

For our first project we began the analysis of surface collections donated to the Museum in 1981 by Fred Jobe from Lincoln County. Earlier in the week I had contacted the Lincoln County Museum in Fayetteville, Tennessee, to see if they would be interested in having an exhibit on these collections. I spoke to Farris Beasley, one of the directors of the Museum and also the veterinarian who treated the cattle of the farmer, Fred Jobe, who had donated the collection. Mr. Jobe had passed away last November. Dr. Beasley noted the Jobe farm's connection to land grants from the Revolutionary War period and

that Mr. Jobe had been a minor league baseball player. Our conversation ended with an invitation to attend a Museum Board of Directors meeting to discuss installing an exhibit on the Jobe farm surface collection. This past Saturday our MAGS group began to brainstorm what such an exhibit might include. They considered the type of information and artifacts to include in the exhibit. The group came up with ideas about how stone tools we often think of as arrowheads were actually used for many purposes. We discussed how the different raw materials indicated the Native Americans who lived two thousand years ago on what became Mr. Jobe's farm participated in a trade *Continued, P. 4*

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MAGS Archaeology Group Meeting Continued from P. 3

and exchange network—and more. One participant suggested that we could create traveling trunk exhibits from these surface collections for area schools.

The rest of our Saturday session we spent completing the re-inventory of the collection. Participants were given pads of paper to make notes on interesting artifacts they came across that they might want to include in the exhibit. Some of the noted artifacts included flint tools with sickle sheen indicating their use in agricultural activities. Other artifacts that drew interest were two ground stone discoids generally interpreted as used as chunky stones in games of skill. Participants asked questions like "How can you tell if this was used as a knife or a spear?" and "How would the handle be attached to the knife?" We ended our session by discussing where the participants would like the sessions to go in the future.

Join us for our next session on April 13th at 10:00 A. M. For more information contact Robert Connolly at rcnnolly@memphis.edu or Ron Brister at bristerr@bellsouth.net.

February Board Minutes

Carol Lybanon

The MAGS Board of Directors met January 31 at St. Francis Hospital, 5959 Park Avenue. The meeting was called to order at 6:30 P. M. by 2nd Vice-President Ron Brister, in the absence of President Paul Sides. Pre-

sent were: Mike Baldwin, Ron Brister, James Butchko, Bonnie Cooper, Bill Gilbert, Charles Hill, Carol Lybanon, Matthew Lybanon, Nannett McDougal-Dykes, and Bob Cooper.

Secretary: The minutes were approved as submitted.

Treasurer: No financial statement because Treasurer Bill Gilbert is waiting for a bank statement. He has paid the Federation dues and reminded us that Paul Sides's signature is still not on the account.

Membership: No report.

Field Trips: Charles Hill reminded the Board of the published field trip schedule. He also talked about the trip he will lead to Chunky Gal Mountain in North Carolina.

Adult Programs: Ron Brister reported that Dr. Robert Connolly will talk about Chucalissa at the February Membership Meeting. We will also have an opportunity to sign up for a new MAGS Archaeology Section that will meet at Chucalissa. In March Dr. Michael Gibson will talk about Tennessee public education in science. In April the Show Committee will put on the program, and in May Ron Brister will talk about the geology of Tennessee.

Junior Programs: In February the kids will talk about magnetite and magnetic minerals. In March there may be a program on crystals, or James Butchko will get in touch with the University of Memphis Egyptology Graduate Students Association to see if they will present a program. In April the Juniors will do a program on the upcoming Show.

Show: James Butchko reported that 29 dealers have paid up. Matthew Lybanon reported that the Show account has \$18,949. James said he will pick up the Show notepads in the next few days. Mike Baldwin reported that he really does not have a lot of time to spend working on the

Show website. He has changed the Show date and the countdown calendar for 2013. He will begin working on updating the dealer pages. But he asked if someone could step up and help him with the website.

Library: Ron Brister is in the process of buying fossil guides for Tennessee, Arkansas, and Mississippi. Nannett McDougal-Dykes said she will check with the Murfreesboro, Tennessee, group to see if they recommend a fossils of Tennessee reference book. Ron gave the Secretary a listing of the library inventory.

Newsletter: Matthew Lybanon reported that the February newsletter is almost done, and will be sent out in the next day or two.

Webmaster: Mike Baldwin is redoing some things on the website. He will add a search and a comment section, and he will work on a keywords search of the newsletters. Nannett McDougal-Dykes asked if we could put together a group of MAGS Members with expertise in a variety of specialties, so that if anybody asks a question it could be directed to one of these people. This will be particularly helpful after Mike initiates a comments section. Ron Brister offered to write an article for the newsletter, to see if he can find other people to answer questions.

Historian/Rock Swap: The first rock swap of the year will be at the home of Jim and Hisami McNeil. Nannett will check to see if April 20 would work out.

Old Business: There was no old business.

New Business:

▶ *The Discovery summer camp*

Nannett McDougal-Dykes asked the Board if we would be interested in helping Shelby Farms at their summer camp. Members would be asked to do a program, once a week, May 27-June 21. If we are interested

she will get more information. Mike Baldwin felt that it is a very good program and we should participate. A motion to participate in this program was carried.

- ▶ Ron Brister said that the Pink Palace Coon Creek open house will not conflict with our Show in 2013, and that, thanks to Neville Mayfield and Chris Scott the roof on the native American house replica at Chucalissa is complete.
- ▶ Matthew Lybanon reported that the March DMC field trip is early in March, March 2, so it will be listed in the February newsletter.

The meeting was adjourned. The next (March) meeting will be on February 28.

February Meeting Minutes

Carol Lybanon

The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on February 8. The meeting was called to order at 7:30 P. M. by 2nd Vice-President Ron Brister, in the absence of President Paul Sides. 42 Members and 6 visitors were present.

BUSINESS:

Field Trips: The next field trip will take place on February 16 and 17. We are going to Park Hills, Missouri. On Saturday we will collect druse quartz, and on Sunday we will go to a new quarry. If you are interested, please sign the signup sheet. James Johnson, one of our Members who lives in Missouri, told W. C. McDaniel that he has a lot of material to donate. Please help to bring some of it back. The middle-of-the-week field trip will remain on March 5. The March 16 field trip will be to Nonconnah Creek. Charles Hill told our Members about his North Carolina trip, which is scheduled for February 22-24. W. C. said that the field trip manual is ready.

He will do a final proof and email it to the Members. He is planning to have some display contests associated with the field trips.

James Butchko reported on the Show. Pleas pick up some Show notepads. He told Members that volunteer signup sheets were located in the back of the room.

DISPLAYS: There were seven displays. Karen Schaeffer was the display winner.

PROGRAM: Ron Brister introduced our speaker, Dr. Robert Connolly. Dr. Connolly spoke about what's happening at Chucalissa. At the end of his talk he and Ron invited MAGS Members to sign up for the new MAGS Archaeology Section. The plans are for it to meet once a month at Chucalissa. MAGS Members will have the opportunity to participate in some real archaeology, and help Chucalissa at the same time.

The meeting was adjourned at 8:45 P. M.

Jewelry Bench Tips by Brad Smith

CUTOFF WHEELS

Cutoff wheels are inexpensive and do a great job cutting or shaping steel. You can use them to sharpen tool points, cut piano wire to length, make slots, and sharpen worn drills. Other uses include modifying pliers and making your own design stamps.

My preference is the one inch diameter size. Be sure to hold the wheel firmly so nothing moves to break the disk, and definitely wear your safety glasses. Those are little flakes of hot steel coming off the disk.

BTW—Cutoff wheels are poor at soft metals like copper, silver

and gold. Soft metals clog up the cutting edges.

DEBURRING JUMP RINGS

When cutting jump rings from large gauge wire for chain making, you'll notice the saw leaves a small burr. An easy way to remove these is to tumble the rings with some fine-cut pyramids. Only a minute or so is needed, and in fact you don't even need a tumbler. I just put a handful of pyramids in a wide mouth plastic jar and shake for a bit.

You can find these pyramids in the tumble finishing section of most jewelry supply catalogs.

More BenchTips by Brad Smith are at [facebook.com/BenchTips/](https://www.facebook.com/BenchTips/) or see the book *Bench Tips for Jewelry Making* on Amazon.

Alfred The Great

Last month's *MAGS Rockhound News* had an article on the discovery, under a parking lot in the British city of Leicester, of King Richard III's bones. Now we can report on the discovery of more royal bones.

Alfred, the only English King to be known as "the Great," was King of Wessex from 871 to 899 and was the first British Monarch to style himself as King of the entire of the Anglo-Saxons. Less than 2 months after Richard's bones were confirmed to have been discovered, Alfred's bones were presumably found.

Like Richard, Alfred's location has been a long-running mystery. He was initially buried beside Winchester Cathe-

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Memphis Mineral, Fossil, & Jewelry Show

Saturday, April 27, 9-6pm and Sunday, April 28, 10-5pm

These programs and events are planned and are successful because club members volunteer to help. Sign up today.

<p style="text-align: center;"><u>SHOW</u></p> <ul style="list-style-type: none"> • Over 60 dealers, exhibitors, displays and demonstrators from throughout the USA. ½ mile of tables stocked full of rocks, fossils, minerals, jewelry, beads and supplies • Rockzone area for the kids with the Gem and Fossil Dig, Rocks Around the Clock, Geode Bowling, Rock Toss and Exhibits • Grand Door Prize 20 pound Deep Midnight Purple Fluorite Mineral Display Specimen from the Cave-In-Rock area of Illinois. • Hourly Door Prizes 	<p style="text-align: center;"><u>ROCKZONE FOR KIDS</u></p> <ul style="list-style-type: none"> • Gem and Fossil Dig -Find and keep all the rocks, fossils and gems you can find in three minutes. The best three minutes of fun in Memphis. • Rocks Around the Clock -Spinning wheel loaded with rocks, crystals and fossils. • Rock Toss- Toss a rock and win. • Geode Bowling- Knock down bowling pins using a Tennessee original geode, one of kind unique event • Educational displays and activities
<p style="text-align: center;"><u>METEORITE EXHIBIT</u></p> <ul style="list-style-type: none"> • Meteorites displayed from around the world • Tektites, Moldavite, Libyan Glass and Tennessee shatter cones • Educational displays and information • Several dealers will have meteorites to sell <p style="text-align: center;">Is your rock a meteorite? Bring your rock for possible identification.</p>	<p style="text-align: center;"><u>SCOUTS GEOLOGY BADGE</u> <i>Scouts admitted free to show when in uniform</i></p> <p style="text-align: center;">Free Program</p> <ul style="list-style-type: none"> • Boy Scout Geology Badge (minerals) Sunday 2:30 pm Seminar Room B • Cub and Girl Scout Geology Merit Badge Program Sunday 2:30 Seminar Room A

Alfred the Great dral, but his remains were moved to Hyde Abbey after the expansion of the cathedral in 1110AD. When Henry VIII dissolved the monasteries, Alfred's final resting place was lost.

According to *Times of London*: "Wessex royals found themselves beneath first derelict land, then a prison, then beside St Bartholo-

mew's Church, until, in the middle of the 19th century, a Victorian archaeologist began investigations around the altar of the old abbey."

An unmarked grave at St. Bartholomew's in Hyde was exhumed recently, *The Daily Echo* (Southampton, U. K.) reports. Remains were found and were taken to an unnamed location for further analysis.

It may be more complicated to identify Alfred's remains than it was to identify Richard III. Investigators can either compare DNA to a living relative (which may prove difficult), or use carbon dating to see if the bones are from the 10th Century, when Alfred died, or the 12th Century when other monks would have been buried nearby.

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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Experiencing the Earth Wide Open

2013 Field trips completed

Date	Location
Jan 12	Lapidary rock shop tour Robert Duncan
Feb 16-17	Park Hills and Eminence, Missouri <i>druses, calcite</i>
Feb 22-24	North Carolina- <i>corundum, zoisite</i>
March 9	Wells Creek - <i>Shatter cones</i> Cumberland Furnace- <i>slag glass</i>
March 16	Nonconnah Creek - <i>rocks and bottles</i>

2013-Upcoming field trips

Month	Date and Location
April	April 13 Sugar Creek, Millington area Creek/gravel bar material
May	May 18 Blue Springs and Frankstown ,MS Fossils and Fossils
June	June 15 Crow Creek near Forrest City, AR Mimetoliths and Agates
July	July 13 Behind the Scene Tour at the Pink Palace
August	August 10 (late day & night) Rainwater Observatory and Planetarium French Camp, MS
Trip bulletins will be published.	

Reminder—MAGS field trip rules:

1. Field trips are open only to current MAGS members. Exception: if MAGS participates in any field trip sharing program with other clubs their members may participate if it is a shared trip.
2. MAGS members will not contact private landowners to obtain permission to collect on sites where the owner has granted the club permission to collect. A member who is unsure of the location will seek a decision by the Board of Directors.
3. MAGS members will not visit (prior to) a collecting site once it is scheduled and published as a club field trip. Exceptions are to public and/or fee places or locations with multiple collecting sites. A member who is unsure of the location will seek a decision by the Board of Directors.

2012 Show Pictures



How Tectonic Plates Slide

The gradual sliding of tectonic plates across the Earth's surface may be lubricated by a layer of partial melting, according to researchers from the U. S. Their study involved conducting magnetotelluric imaging across the Middle America Trench, off the shore of Nicaragua—where the Cocos plate is subducting under the Caribbean plate—and it revealed a far-reaching, high-conductivity layer at a 45–70 km depth in the upper mantle.



"Scientists have known for some time that Earth's tectonic plates are able to slide across the mantle because they are underlain by relatively low viscosity material in the asthenosphere, but the processes that decrease this viscosity are debated," explains lead author Samer Naif, a PhD student at the Scripps Institution of Oceanography. "Our observations show that the asthenosphere beneath the Cocos plate contains a partially molten channel. Since small amounts of melt in the asthenosphere will significantly lower its viscosity, we infer that this layer could be facilitating the motion of the Cocos plate over the mantle, much like a lubricant."

Previous studies have suggested that the low viscosities

found in the asthenosphere—the ductile part of the Earth just below the lithosphere, within the upper mantle—that are needed for such movement might be caused by the presence of small quantities of dissolved water. The partially molten channel the team has discovered, however, supports an alternative solution: acting to decouple the motion of the tectonic plate above from the convecting mantle below.

"Our data tell us that water can't accommodate the features we are seeing," Naif said. "The information from the new images confirms the idea that there needs to be some amount of melt in the upper mantle, and that's really what is creating this ductile behavior for plates to slide."

Natural low-frequency electromagnetic-field variations on the surface induce secondary fields in the conducting Earth. Taken on the sea floor, magnetotelluric imaging uses measurements of the strengths of these induced fields vs. frequency to generate images of electrical conductivity within the crust and mantle. Naif explains that this technique of exploring the inaccessible mantle is particularly sensitive to the presence of conductive materials, such as the ionic fluids in molten rock. The newly found layer—which extended beyond the sampling region in the direction of the Cocos plate interior—stopped short of the subduction zone. The team believes that here the melt's buoyancy may keep it from sinking with the descending plate edge instead pooling under the plate.

The melt also is 1.5 to 2 times

more conductive in the direction of plate motion than parallel to the trench axis. "Shearing of this melt-rich layer at the base of the plate could explain both the anisotropy of conductivity and why oceanic plates seem to move over the underlying mantle with little resistance," comments Donald Forsyth, a marine geophysicist at Brown University, who was not on the team. "A sheared melt layer could lower the viscosity of the mantle in the direction of plate motion, so that there would be little drag at the base of the plate."

The researchers originally intended to study the fluid cycle around the Middle America Trench, then extended their planned array of sea-floor magnetotelluric stations towards the Cocos plate interior with the idea of defining a baseline crust/mantle structure to compare with the fluid structures at the trench. 50 measuring stations were placed along a 280 km profile of the sea floor. "We went out looking to get an idea of how fluids are interacting with plate subduction [and] we discovered a melt layer we weren't expecting to find at all," says another team member, Kerry Key, also from Scripps.

Two possibilities are proposed to explain the origin of this layer of partial melt. In one scenario, the melt occurs and is retained beneath the crust as a result of the mantle upwelling and decompression melting that forms the newly emerging plate material. Another theory proposes that the melt is generated in small amounts throughout the upper mantle and, as a result of buoy-

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How Tectonic Plates Slide ancy, rises
Continued from P. 8 up to the
asthenosphere to pool out underneath the cold lithospheric plate above.

"This study shows rather convincingly a strong electrical resistivity contrast between [the] lithosphere above and partial melt beneath," says Gregory Houseman from the University of Leeds (UK), who was not involved in the work. "The authors' explanation of the low resistivity band makes sense for oceanic lithosphere that is only about 20 million years old, although it implies either a hotter mantle or more water present than is usually quoted in order to get melting at 45 km." He adds that it is important to get seismic data for the boundary and check for consistency with the electrical measurements.

In search of more information on the formation of the melt layer, the researchers are now expanding their area of investigation. "We would like to extend the survey to younger regions of the Cocos plate in order to determine if the melt layer exists there as well," says Naif. "This may help us to determine its origin and also to understand how prevalent this layer is beneath the plate."

Ref: *Nature* 495, 356-359 (21 March 2013) doi:10.1038/nature11939

April Rock Swap

The next rock swap will be Saturday, April 6, 11:00 A. M. to 3:00 P. M. at Jim and Hasami McNeil's home, 9869 Taylor Drive, Olive Branch, MS.

The McNeils will provide the

hamburgers and hot dogs. Please bring a side dish or dessert. The McNeils will have things to swap. It's more fun if you bring something to sell or trade.

Directions From Memphis

From I-240 turn south on Lamar Ave. (US 78) Go to Exit 6 in Olive Branch (Bethel Rd./Hacks Cross Rd., 15-20 mi.). At stop sign turn left onto Hacks Cross. Go approximately 0.4 mi. to stop light (the cross road is MS-178). Turn left on 178 and go approximately 0.6 mi. Turn left on Dorothy (you should see a brick development sign saying Lees Crossing, Fairfield Estates); go approximately 0.1 mi. Turn right on Loftin and go approximately 0.3 mi. Turn left onto Taylor Dr. and go approximately 0.1 mi. (second driveway on left).

Directions From Hwy. 385 (Bill Morris Parkway)

Take 385 to the Hacks Cross exit. Turn right onto Hacks Cross and travel approximately 5-10 mi. At stop light at Hacks Cross and MS-178, turn right on 178 and go approximately 0.6 mi. Turn left on Dorothy (you should see a brick development sign saying Lees Crossing, Fairfield Estates); go approximately 0.1 mi. Turn right on Loftin and go approximately 0.3 mi. Turn left onto Taylor Dr. and go approximately 0.1 mi. (second driveway on left).

Ancient Mammal Jaw Found In Japan

Paleontologists in Japan have unearthed the jaw of a primitive mammal (actually found by amateurs in Hyogo, Japan, in 2007) from the early Cretaceous period.

The small creature, named *Sasayamamylos kawai* for the geologic formation in Japan where it was found, is about 112 million years old and belongs to an ancient clade (a group of animals that share uniquely evolved features and therefore a common ancestry) known as Eutherian mammals, which gave rise to all placental mammals.



The jaw sports pointy, sharp teeth and molars in a proportion similar to that found in modern mammals, said paleontologist Brian Davis of Missouri Southern State University, who was not involved in the study. "This little critter, *Sasayamamylos*, is the oldest Eutherian mammal to demonstrate what paleontologists consider the modern dental formula in placental mammals," Davis said.

The new mammal fossil, described March 26 in *Proceedings of the Royal Society B*, suggests that these primitive creatures were already evolving quickly, with diverse traits emerging, at this point in the Cretaceous Era, he added.

Vectidraco daisymorrisae



Daisy Morris from the Isle of Wight (U. K.) stumbled across some interesting bones on Atherfield Beach about 4 years ago, when she was only 4 (she's now 9). They were the fossilized bones of a previously undiscovered species of pterosaur, a flying reptile from the Lower Cretaceous period.

The family took the bones to a paleontologist at Southampton University, who identified the fos-

sil as a new genus and species of small pterosaur. He said this was an example of how "major discoveries can be made by amateurs." The new species and name were confirmed in a scientific paper, and the pterosaur was donated to Britain's Natural History Museum.

Daisy's mother said her daughter had started fossil hunting aged 3 and came across the blackened "bones sticking out of the sand" in 2009. The confirmation of *Vectidraco daisymorrisae* comes a week after the discovery on the island of an almost complete skeleton of a 12-foot long dinosaur.



Calendar

April 4, 2013

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

April 6, 2013

Rock Swap, McNeil residence, 11:00-3:00

April 12, 2013

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

April 13, 2013

MAGS Field Trip, Sugar Creek

April 13, 2013

MAGS Archaeology Group Meeting, Chucalissa, 10 A. M.

April 27 & 28, 2013

Memphis Mineral, Fossil, and Jewelry Show, Agricenter International

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

