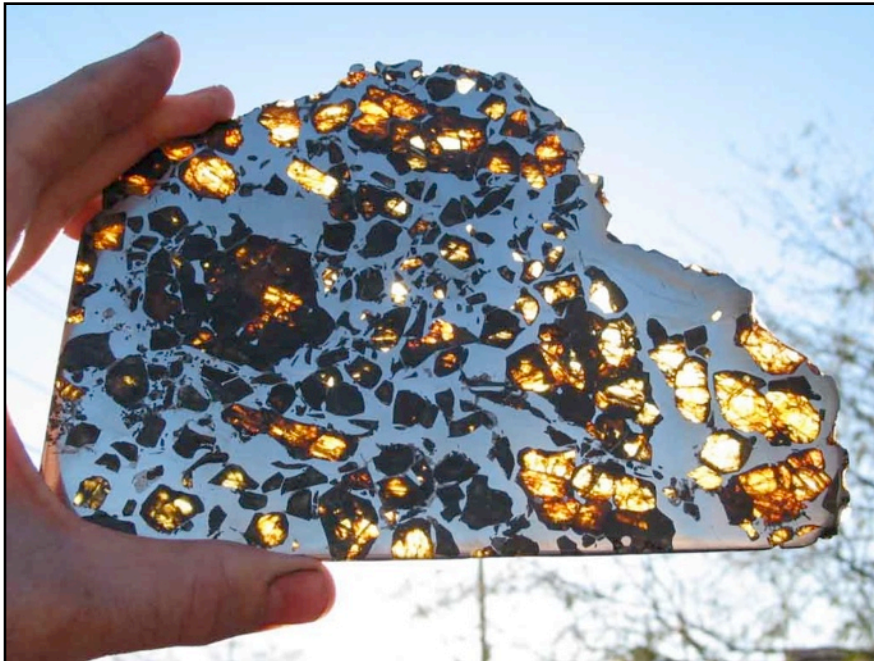




Volume 58 ◊ Number 11 ◊ November 2012 ◊ A monthly newsletter for and by the members of MAGS

# Meteorites: Rocks from Space!

Anita Westlake, Meteorite Association of Georgia



This talk will cover the basics of meteorites: the types, where they come from, their value, etc. Included will be discussions on a few meteorite stories. If there's time, I will tell a personal story involving etching meteorites. I will also touch on the difference

between meteorites and tektites. The talk goes with a Power Point presentation and I'll bring many examples of the rocks I'm talking about. I will also bring meteorites for sale after the meeting.

MAGS Members, please bring *Continued, P. 3*

In this issue	
Meteorites: Rocks from Space!	P. 1
MAGS Board Election	P. 1
MAGS, Regional, and Federation News	P. 2
Coleman Mine Field Trip Pictures	P. 3
September Board Minutes	P. 4
September Meeting Minutes	P. 4
Big Scoop Pictures	P. 5
One Pebble's Story	P. 5
Chucalissa Pictures	P. 6
Mineral Wells Fossil Park	P. 6
TexasField Trip Rescheduled	P. 7
Early Triassic Greenhouse	P. 7
Jewelry Bench Tips	P. 8
Redwood Chunk in Diamond Mine	P. 9
Calendar	P. 10

## MAGS BOARD ELECTION

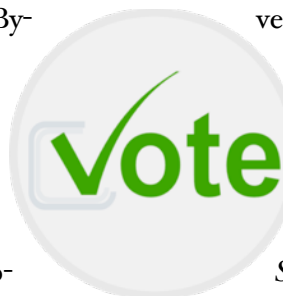
Article IV Section VI of the MAGS By-laws specifies that officers are elected at the November meeting in even-numbered years by a majority of adult members present and voting. Officers serve 2-year terms that start January 1 of the next year.

The election will take place at the No-

vember 9 meeting. Here is the slate prepared by the Nominating Committee:

*President*—Paul Sides  
*1st Vice President (Field Trips)*—W. C. McDaniel  
*2nd Vice President (Programs)*—Ron Brister

*Secretary*—Carol Lybanon *Continued, P. 10*



# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

## 2011-2012 MAGS BOARD

### President—Lou White

3805 Melanie June Drive, Bartlett, TN 38135 ♦ (901) 937-8522

### 1st VP (Field Trips)—Marc Mueller

1415 Shagbark Trail, Murfreesboro, TN 37120 ♦ (615) 491-5110 ♦ skydancer2992@yahoo.com

### 2nd VP (Programs)—Paul Sides

1062 CR 739, Wynne, AR 72396 ♦ (870) 208-9586

### Secretary—Marc Mueller

1415 Shagbark Trail, Murfreesboro, TN 37120 ♦ (615) 491-5110 ♦ skydancer2992@yahoo.com

### Treasurer—Doris Johnston Jones (acting)

409 Bradford Trail Cove, Collierville, TN 38017 ♦ (901) 832-0437 ♦ darjohnston@aol.com

### Director (Asst. Field Trips)—Charles Hill

2887 Forest Hill Irene Road, Germantown, TN 38139 ♦ (901) 754-1504 ♦ hunter3006@aol.com

### Director (Asst. Programs)—Alan Schaeffer

6854 Corsica Drive, Memphis, TN 38120 ♦ (901) 753-8496 ♦ laserme@aol.com

### Director (Youth)—Carol Lybanon

2019 Littlemore Drive, Memphis, TN 38016 ♦ (901) 757-2144 ♦ lybanon@earthlink.net

### Director (Asst. Youth)—Bonnie Cooper

8695 Baylor Road, Arlington, TN 38002 ♦ (901) 377-0900 ♦ rocks4us@hotmail.com

### Director (Librarian)—Ron Brister

3059 Old Brownsville Road, Bartlett, TN 38134 ♦ (901) 388-1765 ♦ bristerr@bellsouth.net

### Director (Membership)—Neville Mayfield

3982 Glendale Drive, Memphis, TN 38128 ♦ (901) 386-3006 ♦ enmayfield@gmail.com

### Director (Historian)—Nannett McDougal-Dykes

♦ 106 Maple Street, Stanton, TN 38069 ♦ (901) 634-9388 ♦ redchesty@yahoo.com

### Newsletter Editor—Matthew Lybanon

2019 Littlemore Drive, Memphis, TN 38016 ♦ (901) 757-2144 ♦ lybanon@earthlink.net

### Webmaster—Mike Baldwin

367 North Main Street, Collierville, TN 38017 ♦ (901) 853-3603 ♦ mbaldwin05@gmail.com

### Show Chairman—James Butchko

4220 Dunn, Memphis, TN 38111 ♦ (901) 743-0058 ♦ butch513j@yahoo.com

## MAGS, Regional, and Federation News

### MAGS Rock Swap

Saturday, November 10, 11:00 to 3:00 at Alan and Alishia Parks's house, 831 West Powell Road in Collierville. Alan will be frying catfish and hush puppies. Please bring a side dish or dessert. Everything else will be provided.

Please bring Gem Dig material (clean and ready to go). Questions? Lost? (901) 853-6898.

### Juniors Corner

In October Juniors heard the adult presentation. This month we will learn about crinoids.

### NMGMS Field Trip

On Sunday, November 4, the North Mississippi Gem and Mineral Society will have a joint field trip with the Alabama Paleontological Society to an Alabama coal mine for Pennsylvanian plant fossils. More information: Nancy Roberts, [therockhoundlady@yahoo.com](mailto:therockhoundlady@yahoo.com), 731-689-5336H, 731-727-5574C

### DMC Program of the SFMS Field Trip Committee

An Official Field Trip of The Mid-Ga Gem and Mineral Society Macon, GA (HOST) and of the Memphis Archaeological and Geological Society

9:00 A. M. to 12:00 Noon, Saturday, November 03, 2012  
Vulcan Materials Company, Bartow Quarry, Cartersville, GA, Free Area

The rock found here is a porphyroblastic granite gneiss and is part of the Corbin Gneiss Complex. This quarry is known for the blue quartz found within the granite.

Field Trip Contact: Jay Batcha, [rocky1s@cox.net](mailto:rocky1s@cox.net)

Phone: 478-784-1965, Cell: 478-957-5002

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](mailto:lybanon@earthlink.net).

### Links to Federation News

- ➔ AFMS: [www.amfed.org/afms\\_news.htm](http://www.amfed.org/afms_news.htm)
- ➔ SFMS: [www.amfed.org/sfms/](http://www.amfed.org/sfms/)
- ➔ DMC: [www.amfed.org/sfms/\\_dmc/dmc.htm](http://www.amfed.org/sfms/_dmc/dmc.htm)

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

*Meteorites! Rocks from Space!* any specimens that you think might be meteorites, and I'll be happy to identify them.  
*Continued from P. 1*

I have been studying and collecting meteorites for about 8 years now. I have over 200 in my personal collection, including some very rare ones.

I am the past President and Co-Founder of the Meteorite Association of Georgia. We have a great website (by the same name) and do education and outreach all over the Southeast.

I recently gave a presentation at the Tucson Gem and Mineral Show's annual meteorite auction.

I worked for the Tellus Science Museum for 2 years as Librarian, but also enjoyed being called to the Front Desk to identify rocks, minerals, fossils, and the occasional "meteorite".

I have been fortunate to have had several articles published in *Meteorite!* magazine.

### **Editor's notes:**

1. *The picture on P. 1 shows a sample from the Esquel meteorite, a 755 kg meteorite that an Argentine farmer found in 1951 while digging a hole for a water tank. It is a pallasite, olivine (peridot) crystals embedded in a Fe-Ni alloy matrix.*

2. *The Tellus Science Museum, in Cartersville, Georgia, features four main galleries: The Weinman Mineral Gallery, The Fossil Gallery, Science in Motion, and The Collins Family My Big Backyard.*

### **Links:**

[www.meteoriteassociationofgeorgia.org](http://www.meteoriteassociationofgeorgia.org)

[tellusmuseum.org](http://tellusmuseum.org)

## Coleman Mine Field Trip

The Ron Coleman Mine near Hot Springs, Arkansas, is a favorite destination for MAGSters to go quartz collecting. Thanks to Neville Mayfield and Marc Mueller, here are some pictures from the September 22 field trip to the mine.



# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

## September Board Minutes

*Mike Baldwin*

Attending: Mike Baldwin, Ron Brister, Bob Cooper, Charles Hill, Doris Johnston, Carol Lybanon, Matthew Lybanon, Nannett McDougal-Dykes, Neville Mayfield, Marc Mueller, Paul Sides and Lou White.

President Lou White called the meeting to order at 1848. Minutes were recorded by interim secretary Mike Baldwin.

**Secretary:** Minutes approved with corrections.

**Librarian:** Ron Brister reported that there are more new books for the library. October 20 is National Archaeology Day at Chucalissa. \$2,000 gift from MAGS to Chucalissa is greatly appreciated. Job Corps people are working on the house in the plaza. The goal is to have the house open to the public by October 20.

**Field Trips:** Marc Mueller reported [minddat.org](http://minddat.org) as an excellent web source to locate any mining site by longitude and latitude with minerals listed for each state. Trips: Ron Coleman said they would have new material out this month. The Little Rock club is interested in a joint trip to Ron Coleman Mine and possibly one to Jim Coleman Mine on September 22-23. September is a good time to go to Ron Coleman Mine. Even the wash area had good crystals. Charles Hill talked about the Miller Mine at Bear Mountain. There is camping and collecting there. A discussion about quartz mines in South Carolina followed. Carol Lybanon talked about the October Dallas trip. The property owner has decided not to allow us to collect. Bob Williams is still looking for private sites. We still have public sites available but finds are not guaranteed. Trip won't be canceled but we will go no expectations. Marion, Ken-

tucky could be an alternate trip. Clement Fluorite Mine is having an open dig on October 13. A joint trip with the North Mississippi Gem and Mineral Society to the Arlington Gravel Mine is set for September 8. September 27-28 is GeodeFest in Keokuk, Iowa. MAGS field trip to Livingston and Dale Hollow planned for October 27-28 with possible visit to Ledbetter Farm and Big War Eagle Creek (crinoids, geodes and petrified wood).

**Rock Swaps:** Nannett McDougall-Dykes reported that plans are underway for a Fish Fry in October or November.

**Treasurer:** Motion made and seconded to accept the August treasurer's report. Motion carried.

**Juniors:** Carol Lybanon reported that the junior program for September will be constructing fossil collection boxes, complete with specimens and labels (limited to 14). Discussion followed concerning plans for the December meeting. Should the juniors exchange gifts or should MAGS provide gifts for them? Lou and the board are in favor of MAGS providing gifts.

**Editor/Show:** Matthew Lybanon announced the deadline for October articles is September 15. Concerning the 2013 show, the Agricenter has decided to increase our rent by approximately \$1,100.00. We must plan for this increase. Discussion included possible dealer fee increase, cutback on extraneous expenditures, looking for alternative locations, eliminating hallway/lecture room space and entering the show through the RockZone entrance. Further discussions were deferred.

**Programs:** Paul reported the September program will be presented by Nina Riding. October program will be archaeological discoveries along the Buffalo River presented by Guy Weaver.

**Membership:** Neville Mayfield announced that we have two new members since last month.

**New Business:** Neville reported that we have 25 buckets of materials for grab bags. Discussion followed on ways to transport large specimens from collecting sites.

**Nominating Committee:** Mike reported that there are five open spots on the 2013-14 board. Progress has been slow on getting members to agree to serve.

Having no further reports or business to conduct, the meeting was adjourned at 2002.

## September Meeting Minutes

*Mike Baldwin*

9 visitors were in attendance at tonight's membership meeting.

The meeting was called to order at 1933 by President Lou White.

Membership Director Neville Mayfield welcomed and introduced visitors.

Ron Brister read a letter from Chucalissa Indian Village and Museum thanking MAGS for a recent donation to the House Restoration Fund.

Mike Baldwin read a proposed amendment to Article V of the MAGS Bylaws to all members present. President Lou White called for a vote and the amendment was approved by unanimous vote of the membership.

Marc Mueller reported that 10 members of the North Mississippi Geological Society and 20 members of the Memphis Archaeological and Geological Society attended the August field trip to Memphis Stone and Gravel's Arlington Mine. The weekend of September 22 will be a quartz-collecting field trip to

Hot Springs, Arkan- *Continued, P. 5*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

*September Meeting Minutes*  
*Continued from P. 4*

of Hot Springs crystals. Sign-up and information sheets are available on the back table. September 22 is the DMC field trip to the Savannah River. October 13 will be a field trip to Taylorsville, Kentucky, to collect Ordovician rocks and fossils (sponsored by KYANA). MAGS field trip to the Cookeville, Tennessee, area will be the last weekend of October. November 3 DMC field trip will be to Cartersville, Georgia, to collect purple quartz and granet.

Carol Lybanon talked about the October 12-14 MAGS field trip to the Dallas, Texas, area to collect ammonites and other fossils. Three collecting sites have been identified. A sign-up

sheet and information sheets on the trip and accommodations are available on the back table.

Mike Baldwin made a plea to the membership for volunteers to serve on the 2013-14 board.

W. C. McDaniel announced that the October membership meeting will be on October 5 (one week earlier than usual). W. C. also gave the membership a good report on the health of Mike Howard. Mike will be at the 2013 rock show.

Lou White called for display owners to come forward and talk about their displays. Charles Hill shared Devonian fossils recently found near Huntsville, Alabama, sponges from Pickwick, and finds from Sugar Creek and Richardson's Landing. Chris Scott shared his collection of grab bag

treasures. Dede Bouson shared her collection of polished and cabbed minerals and fossils, specimens from Maui, Hawaii, and jewelry.

Junior members were dismissed to go to their program, labeling and mounting fossils in collection boxes, presented by Carol Lybanon.

Paul Sides announced that the program for October will be Recent Archaeological Finds of the Buffalo River, Tennessee, presented by Guy Weaver. Tonight's program, Palynology of the McNairy Sand Member, was presented by Dr. Nina Baghai-Riding, followed by questions from the members.

The business portion of the membership meeting was adjourned at 2054, followed by fellowship and refreshments.

## 18th Annual Big Scoop Ice Cream Festival



For years MAGS has been a supporter of the Ronald McDonald House Charities of Memphis. Not only has MAGS donated a portion of its annual Show proceeds to RMH, but has also taken part in the annual Big Scoop fundraiser. This year's Big Scoop was at AutoZone Park on September 29. Thanks to Nannett McDougal-Dykes and Jim Bitchko for representing MAGS, and thanks to Marc Mueller for the pictures.



### One Pebble's Story

*Adapted with permission from an article by Alan Goldstein*

Two billion years ago, molten magma cooled about 16 km underground. It took about a million years to harden into hard granite. Two hundred million years ago, continents collided. The granite rock was shoved a couple of miles down and put under tremendous pressure as continental plates ground together by tectonic ac-

tion. The minerals in the granite became re-crystallized. The result was a hardened rock with many layers. It had become a metamorphic rock called gneiss.

About two million years ago, the rock was exposed on the surface of the landscape. Glaciers formed. Ice up to two miles thick crept along the surface. One day, about a million years ago, the glacial ice plucked our pebble (still attached to a giant boulder). As it

was dragged along beneath a mile or more of ice, pieces flaked off and the large boulder became a number of smaller, rounder and smoother cobbles. Over a period of 4 or 5 glacial episodes, most cobbles were worn into smooth, small pebbles. As the glaciers melted chilled water flowed away from the dying glacier slowly moving the stones. Within the last 10,000 years, our pebble has moved dozens of miles to its present location.

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

## National Archaeology Day at Chucalissa

Saturday, October 20, was National Archaeology Day. The C. H. Nash Museum at Chucalissa celebrated the day with a busy schedule of tours, demonstrations, and other activities. Of course MAGS was represented (and Museum Director Dr. Robert Connolly is a MAGS Member). One special occasion was the grand opening of the newly constructed replica 1500s era Mississippian house. MAGS is proud to have supported this project both financially and by participating in the construction.



Ron Brister and Robert Connolly



Carol Had a Busy Day at a Popular Destination



The Mississippian Replica House



A Skillful(?) Atlatl Throw



Robert Explains It All

## Mineral Wells Fossil Park



The May 2012 issue of MAGS Rockhound News had an article about a proposal to develop a Memphis City park that would provide improved access to Nonconnah Creek. Nonconnah is a good collecting site, where it is possible to find petrified wood, ice age fossils, agates, and other interesting minerals (the May 19 field trip went to the Creek).

MAGSters are aware that we have this resource in our backyard, but many other Memphians and visitors to Memphis are not. Also, there are very few places where people can get down to Nonconnah Creek, and in several of those places getting down is not easy. That is

why MAGS made a proposal to Memphis Park Services to create a park that would make access easier. MAGS would contribute by providing information for signs and other means to

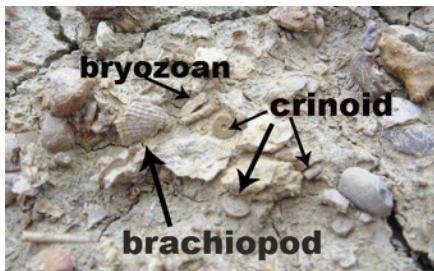
*Continued, P. 7*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

*Mineral Wells Fossil Park* inform the public of what they can find there. MAGSters can download a petition to the City, requesting the park, from the MAGS website, [memphisgeology.org](http://memphisgeology.org).

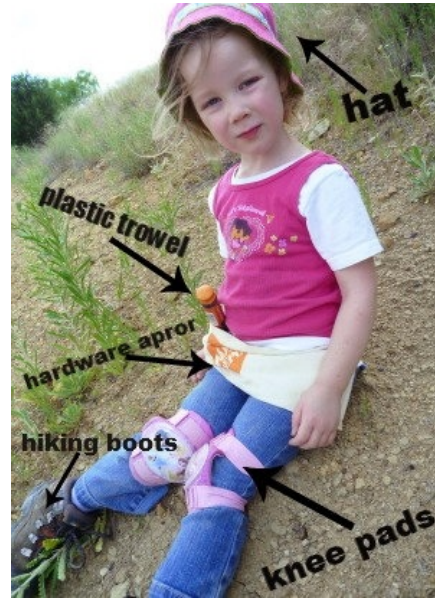
Where did the idea come from? Better access to Nonconah Creek has been a priority for some time, but the idea of solving the problem with a city park was inspired by a similar park in Mineral Wells, Texas.



Mineral Wells, population 16,788, is near Dallas. The town had a landfill borrow pit that hadn't been used for a while. However, over the years erosion exposed a bounty of fossils from the Pennsylvanian period. There were crinoids, gastropods, brachiopods, trilobites, echinoids, and shark teeth. They were so abundant (see picture above, taken by a visitor to the park) that even kids could easily find fossils there.

The Dallas Paleontological Society got together with the town of Mineral Wells and turned the site into a park. There is a parking lot, a sign (see preceding page) and a handrail leading down the embankment from the parking lot into the pit. Admission is free. The sign says the park is only open on weekends, but the park has been so popular that at times it

has been opened every day of the week. The picture below illustrates the equipment needed at Mineral Wells Fossil Park.



Want to know more? Check out the video at a Dallas-Fort Worth TV station's website (if you copy the URL and paste it into your browser's address window, be sure to remove any spaces), [www.myfoxdfw.com/story/17501972/lone-star-adventure-fossil-park](http://www.myfoxdfw.com/story/17501972/lone-star-adventure-fossil-park). Why can't we do something similar in Memphis? How can you help?

## Texas Field Trip Rescheduled

The October field trip to Valley View, Texas, to collect ammonites and other fossils, had to be rescheduled because of a number of unexpected circumstances. The person in Texas who will take us to the collecting sites has gotten permission to get onto a promising new site, so the potential for

good collecting has improved. The trip will now be November 22-24. For more information contact Matthew or Carol Lybanon at [lybanon@earthlink.net](mailto:lybanon@earthlink.net) or (901) 757-2144.

## Early Triassic Greenhouse



There may be disagreement about the role of human activity in global warming today, but there is no doubt that previous global warming episodes have had major consequences. A recent paper in *Science* sheds new light on the end-Permian mass extinction known as the end-Smithian crisis. The study is the most detailed temperature record of this study period (252-247 million years ago) to date.

The picture above is a paleogeographic reconstruction of the Early Triassic world (Smithian substage), showing a "dead zone" in the tropics. Marine reptiles (ichthyosaurs), terrestrial tetrapods and fish almost exclusively occurred in higher latitudes (>30°N and >40°S) with rare exceptions.

The end-Permian mass extinction, which occurred around 250 million years ago in the pre-dinosaur era, wiped out nearly all the world's species. Typically, a mass extinction is followed by a "dead zone" during which new species are not seen for tens of thousands of years.

In this case the *Continued, P. 8*

*Early Triassic Greenhouse* dead zone, *Continued from P. 7* during the Early Triassic period which followed, lasted for a perplexingly long period: five million years.

The study, jointly led by the University of Leeds and China University of Geosciences (Wuhan), in collaboration with the University of Erlangen-Nurnburg (Germany), shows the cause of this lengthy devastation was a temperature rise to lethal levels in the tropics: around 50-60°C on land, and 40°C at the sea-surface.

Lead author Yadong Sun says: "Global warming has long been linked to the end-Permian mass extinction, but this study is the first to show extreme temperatures kept life from re-starting in Equatorial latitudes for millions of years."

It is also the first study to show water temperatures close to the ocean's surface can reach 40°C—a near-lethal value at which marine life dies and photosynthesis stops. Until now, climate models have assumed sea-surface temperatures cannot surpass 30°C. The findings may help us understand future climate change patterns.

The dead zone would have been a strange world—very wet in the tropics but with almost nothing growing. No forests grew, only shrubs and ferns. No fish or marine reptiles were to be found in the tropics, only shellfish, and virtually no land animals existed because their high metabolic rate made it impossible to deal with the extreme temperatures. Only the polar regions provided a refuge

from the baking heat.

Before the end-Permian mass extinction, Earth had teemed with plants and animals including primitive reptiles and amphibians, and a wide variety of sea creatures including coral and sea lilies.

This broken world scenario was caused by a breakdown in global carbon cycling. In normal circumstances, plants help regulate temperature by absorbing CO<sub>2</sub> and burying it as dead plant matter. Without plants, levels of CO<sub>2</sub> can rise unchecked, which causes temperatures to increase.

Ref: Sun et al., *Science* 19 October 2012: Vol. 338 no. 6105 pp. 366-370, DOI: 10.1126/science.1224126

### Jewelry Bench Tips by Brad Smith

#### LOOSE HEADS



Flying off the handle is never good, particularly if it's a hammer head. The traditional way to tighten a loose hammer head is a bit of work, but there's a fast and easy solution available for about 50 cents—superglue. Simply put a couple drops in from the handle side, let it set up, and then a few drops from the top side. Be sure to get the thin superglue, not gel.

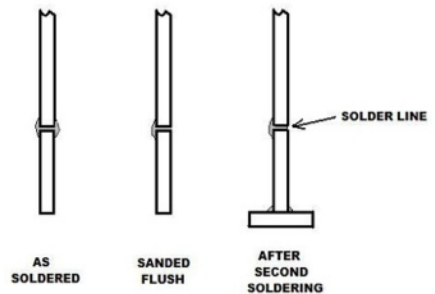
It penetrates better. Packages of two superglues are usually available at the 99 cent store.

#### NEW BENCH TIPS BOOK

Announcing *Bench Tips for Better Jewelry Making*, a new book for beginning and intermediate jewelers by Bradford Smith. It contains 101 useful Bench Tips to help improve skills and increase quality at the bench. The 96 page book is filled with close-up photos to help explain the techniques. For more details, see

[CreateSpace.com/3976439](http://CreateSpace.com/3976439) or [Amazon.com/dp/0988285800/](http://Amazon.com/dp/0988285800/)

#### AVOIDING SOLDER LINES



After finishing a soldered joint on say a bezel, have you ever seen it reappear when you solder the bezel to a base plate? What's happening is that every time you heat a soldered piece to the temperature that solder flows, the liquid solder dissolves a little bit more into the base metal. This leaves a small furrow where the solder had been sanded off flush at the joint. To get rid of the furrow, you have to re-sand the joint area down to the bottom of the furrow.

To avoid this when I have another soldering operation to follow, I try to leave a little extra solder on my joints.

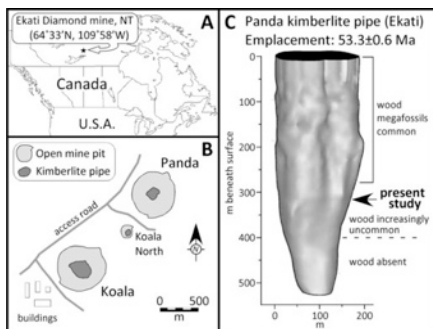
For instance, when *Continued, P. 9*



*Jewelry Bench Tips* trimming off excess base plate from around a bezel, I leave a couple paper thicknesses excess plate material whenever possible until I'm done with all soldering. Of course, this isn't always possible as when a soldering operation would prevent you from gaining access for final sanding and polishing of an area.

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

## Redwood Chunk in Diamond Mine



- A. Location of the diamond mine.
- B. Situation of the Panda kimberlite in relation to other pipes that comprise the property.
- C. Morphology of the Panda kimberlite pipe and occurrence of wood.

A recent paper reported exceptionally well preserved fossil wood buried deeply in a kimberlite pipe that intruded northwestern Canada's Slave Province 53.3±0.6 million years ago, revealed during excavation of diamond source rock. The wood originated from forest surrounding the eruption zone and collapsed into the diatreme before resettling in volcanoclastic kimberlite to depths >300

m, where it was mummified in a sterile environment. Anatomy of the unpermineralized wood permits conclusive identification to the genus *Metasequoia* (Cupressaceae). The wood yields genuine cellulose and occluded amber, both of which have been characterized spectroscopically and isotopically. Measurements suggest that Early Eocene paleoclimates in the western Canadian subarctic were Canadian subarctic were 12–17°C warmer and four times wetter than present.



- D. Fossil wood encrusted in olivine-rich volcanoclastic kimberlite.
- E. Photograph of the specimen characterized in this study.

The wood was found a few years ago in a kimberlite pipe, named the Panda pipe, over 315 meters below Earth's surface at the Ekati diamond mine, just south of the Arctic Circle in Canada's Northwest Territories. A kimberlite pipe, a type of volcanic pipe, forms when kimberlite magma pushes through deep fractures in the Earth's crust to create

a vertical tubelike structure that's wider at the top like a carrot. Kimberlites have the deepest origins of all magmas on Earth, and when they cool they leave behind rocks dense in crystals, sometimes holding diamonds.

The researchers say the site of the Panda pipe was covered with a forest of *Metasequoia*, similar to today's dawn redwoods, during the early Eocene. The kimberlite eruption that occurred there about 53.3 million years ago opened a hole in the Earth's surface, sucking in some of those redwoods. Lead author of the study Alex Wolfe of the University of Alberta explained that open space along the side of this hole allowed the trees to tumble far inside. "Then it cooled, and the wood was locked in the volcanic rock."

The specimen may be the oldest of its kind found in the region, surpassing wood from the Axel Heiberg fossil forest in northern Canada by millions of years. Wolfe said that, for its age, it is by far the best preserved, which is important in a region where glaciers have scraped other traces of prehistory off the map.

A study of the well-preserved specimen shows that the now-icy region where it was found had a swamplier past. Western Canadian subarctic conditions were warmer and wetter than they are today.

Ref.: Wolfe AP, Csank AZ, Reyes AV, McKellar RC, Tappert R, et al. (2012) *Pristine Early Eocene Wood Buried Deeply in Kimberlite from Northern Canada*. *PLoS ONE* 7(9): e45537. doi: 10.1371/journal.pone.0045537

# Your Vote Counts



*MAGS Board Election* *Treasurer*—  
*Continued from P. 1* Bill Gilbert  
*Director*  
 (Assistant Field Trips)—Charles Hill  
 Director (Assistant Programs)—  
 Guy Weaver  
 Director (Youth)—open  
 Director (Assistant Youth)—  
 Bonnie Cooper

*Director (Membership)*—Neville  
 Mayfield  
*Director (Librarian)*—Ron Brister  
*Director (Historian)*—  
 Nannett McDougal-Dykes

Additional nominations may be made from the floor. The Editor, Show Chair, and Web Coordinator are appointed by the President, not elected.

We still need a candidate for Director (Youth). If you are interested in the position, or have someone else to nominate, please contact Nominating Committee Chair Mike Baldwin at (901) 853-3603 or [mbaldwin@gmail.com](mailto:mbaldwin@gmail.com).

## Calendar

### November 1, 2012

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

### November 4, 2012

NMGMS Field Trip, Alabama

### November 9, 2012

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

### November 10, 2012

Rock Swap, Alan and Alishia Parks

### November 22-24, 2012

MAGS Field Trip, Valley View, Texas

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

