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Wells Creek Impact Crater Stewart and Houston Counties, Central Tennessee

MIKE BALDWIN: 28 FEBRUARY 2006: Sometime between 100 and 300 million years ago, a violent event occurred in what is now Wells Creek Basin in Stewart and Houston



Wells Creek Crater Rim

This picture was taken from the rim of the Wells Creek Impact Crater, looking about two miles directly across the crater to the opposite rim along the horizon. Photo by Kelly Baldwin, MAGS field trip, 02.25.06.

Counties of Central Tennessee. A bright light appeared and streaked southward across the sky. A meteorite, traveling 10 to 25 miles per second (36,000 to 90,000 mph), struck the earth with a shuddering impact, accompanied by a supersonic air blast, and penetrated to a depth of 2,000 feet before the tremendous downward forces together with the earth's forces of resistance resulted in gigantic explosion. The earth shook and earthquake waves raced in all directions. A mighty fiery mushroom of masses of rock and clouds of pulverized rock dust rose high into the air, and fell back to earth. The rock fragments landed quickly, but some of the dust stayed in the air. A great crater was formed, about four miles in diameter and half a mile deep, rimmed by a surrounding pile of shattered rock debris. The crater was mostly filled in by the central uplift. The deafening noise died away and all returned to the peace and quiet that prevailed before the catastrophe.

The earth's surface appeared to be damaged forever, but millions of years passed and erosion and vegetation softened the ugly scar. The rim of scattered rock disappeared, and the level of the region was lowered many hundreds of feet by the work of rain and running water, mass wasting, gullying, and downward and lateral cutting by streams. Because of the shattered character of the rock in the impact area, the circular scar was eroded faster and therefore deeper than the surrounding region. Thus, circular Wells Creek Basin, as it is today, was born.

Perhaps 10,000 years ago, man first saw Wells Creek Basin, Indian tribes found haven in this pleasant basin that had so much to offer. Game was plentiful, and the streams yielded a variety of fish and mussels. Springs and clear streams were present. The low hill in the middle of the basin afforded an excellent place to camp and to live safely above the highest flood water. Outposts of watchers could guard the trail that entered the basin from the south along Wells Creek as well as paths that crossed the

see Wells Creek Crater on page nine

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President's Corner WC McDANIEL

This month's presidential letter makes a special plea and appeal to our club members. The club needs you. Next month the club will produce and present our 27th annual show on April 22 and 23.

The show's success and reputation are a direct result of those club members who step up to the front door of the Pipkin building, walk in and go to work. Are you ready to do that? To help you make up your mind, take a look some basic show facts and data.

The show will have thirty dealers from fourteen states and they will occupy 208 tables filled with rocks, fossils, minerals, jewelry and beads. That's about 4,000 square feet of table top displays. That's more than some show's entire facility.

We have 3,280 folks on our mailing list, representing twenty two states. Some will begin to arrive before 9:00 am on Saturday and some will have to be scooted out the door on Sunday at 5:00 pm when the show will close. By that time will have announced the winner of the show's grand door prize.

The cost to produce one yearly show equals about six years of the club's membership expenses. The expense is about \$52 per club member of which \$7 are services and opportunities provided to all club members. That includes free admission, show dinner, field trip insurance, and a hospitality booth opened the complete weekend for all club members.

Beyond these numbers the show is good for the club, good for each member, good for the community and good for our hobby. So the plea and appeal is this. Please volunteer by contacting James Butchko at 743.0058 or WC McDaniel at 274.7706. We can also email the schedule needs upon request. Sign up sheets will be available at the March and April membership meetings. Thanks for your commitment and participation.

WC McDaniel

2006 Dates to Remember

	Board Meeting	Membership Meeting	Due Date for Newsletter Articles
March	2	10	–
April	6	14	March 24
May	4	12	April 28
June	1	9	May 26
July	6	14	June 23
August	3	11	July 22

From the Treasurer

CORNELIA McDANIEL: The Final Dues Renewal Notices have been mailed to the 30% of last year's membership that have not as yet renewed. If you receive one of the notices and have since paid your dues, THANK YOU and please disregard the notice. The 2006 membership list is nearly final and we are about to proceed with the publication and distribution of this year's Membership and Library cards and Membership Directory/Handbook.

It is our hope that everyone has the intention of renewing their membership status to continue eligibility for club privileges this coming year. We look forward to your continued participation in the excitement that is being planned throughout 2006.

If you have recently joined the club, you may not have received your Membership cards and Library card in your New Member Packet. We are sorry for this delay and we will be distributing these items to you as soon as received from the publisher.

Hopefully you had a chance to review the 2005 annual Treasurer report that was available for your review at the February Membership meeting. It showed the importance of how dues collection funds the club's necessary expenses. If not, and you still have interest, I hope to see you at the next Membership meeting.

Announcements

Membership displays--Reminder, bring your displays to the March and April meetings. Winning displays will receive a \$5 gift certificate to spend at the show.

Auction--The March membership will have a silent auction of jewelry items left over from the show, a large pry bar and a few rocks. Auction proceeds go directly to the club.

March Roadcut

WC McDANIEL: Roadcut looks at one of the most basic subject matters in geology, rock identification. In addition, rock identification and the rock cycle have emerged as the primary earth science questions on most mandatory testing conducted by schools. Here's a review of the three types of rocks:

Igneous rocks are the first great class. "Igneous" comes from the Latin for fire, and all igneous rocks formed by solidifying from hot, molten material. This material may have been lava at the Earth's surface, or magma (unrupted lava) at shallow depths, or magma in deep bodies (plutons). Rock formed of lava is called extrusive, rock from shallow magma is called intrusive and rock from deep magma is called plutonic.

Sedimentary rocks are the second great class. Sedimentary rocks are born cool at the Earth's surface, mostly under water. They usually consist of layers or strata, hence they are also called stratified rocks.

Metamorphic rocks are the third great class of rocks. These are what happen when sedimentary and igneous rocks become changed, or metamorphosed, by conditions underground. The four main agents that metamorphose rocks are heat, pressure, fluids and strain. These agents can act and interact in an infinite variety of ways. As a result, most of the thousands of rare minerals known to science occur in metamorphic ("shape-changed") rocks.

Igneous rocks	Sedimentary rocks	Metamorphic rocks
Little texture or layering; mostly black, white and/or gray minerals, may look like lava	Layers of sandy or clay rock (strata); tends to split along layers; mostly brown or gray; may have fossils and water or wind marks	Layers of light or dark minerals (foliation), often wavy; various colors; glittery from mica
+ Obsidian	+ Limestone	+ Mica
+ Granite	+ Sandstone	+ Schist
+ Pumice	+ Coal	+ Marble
+ Basalt	+ Chert	+ Slate
+ Scoria	+ Shale	+ Gneiss
+ Felsite	+ Gypsum	+ Quartzite

Source: www.geology.about.com

March Program

IDAJEAN JORDAN: Mark your calendars for the MAGS March Membership Meeting, Friday, March 10. Bill Pryor will present our program as he tells us about a new mineral found in an Arkansas gypsum quarry. He will also tell us about some of the fossils found in Arkansas.

2006 MAGS Field Trips

LOU WHITE/DAVID McILWAIN:

[01] Most of the trips will be scheduled the weekend after the membership meeting.

[02] Those trips with an asterisk are subject to verification/permission from land-owners and local contacts.

[03] Specific trip details provided at membership meetings or email/phone.

[04] Unless specified, field trips are limited to MAGS members.

[05] Field trip participants must sign a MAGS' liability waiver form.

[06] Note: Black Rock, AR is not on the listed schedule. We will continue to contact the mine and if permission is granted for a trip we will immediately schedule it.

Month	Date(s)	Site	Material	Trip Leader(s)
Mar	4	Nonconnah Creek, Memphis, TN	Agates, wood, fossils	Lou White
Mar	18 (17-19)	Cookeville, TN Dale Hollow Lake* (5 hours)	Geodes, fossils	Lou White/ David McIlwain
Apr	15	Sugar Creek, Millington, TN (.5 hours)	Agates, wood, fossils	Lou White
May	27 (26-29) Memorial Day Weekend	Farmington, MO (5 hours)	Multiple sites and trips each day: pink dolomite, amber colored calcite (new site), druze quartz, barite, Washington Co. agates	David McIlwain, WC McDaniel, White with Betty and Lloyd Marler
Jun	17	Crowley's Ridge, AR (1 hour)	Agates, wood, fossils, selenite	Lou White
Jul	22	20-Mile Creek, MS (2 hours)	Fossils	Lou White
Aug	19	open		
Sep	16	open		
Oct	21	Vulcan Quarry, Parsons, TN (2.5 hours)	Fossils	Lou White/ David McIlwain
Nov	18 (17-19)	Mt. Ida, AR (3.5 hours)	Quartz crystals	Lou White/ David McIlwain

2 MAGS Field Trips in March

March 4, 9:30am: Nonconnah Creek ~ call W.C. McDaniel for details.

March 18: Cookeville, TN ~ get details at the March meeting.

MAGS 27th Annual Mid-America Mineral, Fossil, Jewelry Show

Saturday, April 22, 9:00 - 6:00

Sunday, April 23, 10:00 - 5:00

Pipkin Building, Mid-South Fairgrounds
Memphis, Tennessee

*Portion of admission benefits the
Ronald McDonald House of Memphis*

GRAND DOOR PRIZE:

Fossilized Turtle (Rare-Museum Quality)

2006 SHOW DEALER PARTICIPANTS

- 01 Boutwell Tumbled Stones-IN
- 02 Terra Firma-WI
- 03 Stones and Bones-GA
- 04 Treasure Chest-MO
- 05 Austin Gems-AR
- 06 Larsen's Minerals-TX
- 07 Butterflies by God-MO
- 08 Memphis Novelty-TN
- 09 McNeil Minerals-MS
- 10 FossilMall-AR
- 11 G.P. Rocks-WV
- 12 B&J Enterprises-AL
- 13 Exquisite Stones-LA
- 14 Christopher's Crystal Mine-FL
- 15 Gema and Crystals Unlimited-GA
- 16 Volunteer Gems-TN
- 17 J.R. Rocks-SC
- 18 Mineral House-OH
- 19 Javed's-GA
- 20 Janda Gems-AL
- 21 Mo-Rocks-MO
- 22 Blue Eagle-AR
- 23 Rock Barrell-TN
- 24 Carl's Slabs and Cabs-GA
- 26 O'Mega Gems-TN
- 27 Custom Creations-MS
- 28 Jim's Minerals-TN
- 29 Quest Crystal-OH
- 30 Sculptured Originals-FL

SHOW VOLUNTEERS NEEDED

- Thursday (20) - Building setup
- Friday (21) - Building setup for dealers, Show dinner, ROCKZONE
- Saturday (22) and Sunday (23) - Volunteer to help with the ROCK ZONE, front ticket desk/information and hospitality
- Sunday - Show breakdown and clean up

March Birthdays

CORNELIA McDANIEL: Birthstone for March is Aquamarine.

- 2 Rita Lander
- 3 Dana Griffin
- 11 Nancy Folden
- 15 Anahita Enzerink
- 16 James Burns
- 20 Andrea Scilken
- 22 Sherida Helms
- 23 Sharon Drungell
- 23 Dorothy Foster**
- 23 Janice Sanford
- 24 Daniel Shankman
- 26 Stephany Rainwater
- 27 Ann Huber
- 29 Angela Cates
- 30 Hisami McNeil**
- 31 Hunter Hill

Bold type indicates lifetime members.

Aquamarine: Aqua means water, and marine comes from a Latin word meaning "sea". The aquamarine's gentle bluish-green color reminded the Romans of seawater, and that's how the March birthstone got its name.

Roger Van Cleef Education Program Donations

In recognition and honor of Roger Van Cleef the Memphis Archaeological and Geological Society has established the Roger Van Cleef Educational Program & Earth Science Award.

The primary purpose of the Roger Van Cleef Educational Program will be to provide MAGS members the resources and materials necessary to present educational programs and information to schools, scouts, and the general public and for MAGS' programs and events.

MAGS would like to thank the following individuals and families for their generous and thoughtful donations to the Roger Van Cleef Education Program:

- 12.2005 Linda Wilson
- 01.2006 Ivon Clark
- 01.2006 Kelsey Lyons
- 01.2006 Linda & David Waddell
- 02.2006 W.C. & Cornelia McDaniel

Web Site Statistics for February 2006

MIKE BALDWIN: Here's a brief look at our web site [www.memphisgeology.org] 01.21.02 through 02.28.05:

Visits.....	129,699
Hits	543,231 Hits
Average visits/day in past 30 days.....	374
Top pages in the past 30 days:	
argon2003.pdf.....	847 hits
homepage	815 hits
Explorer0203.pdf.....	672 hits
rocknews0206.pdf.....	599 hits
Explorer0604.pdf.....	486 hits
Explorer0403.pdf.....	427 hits

A visit is every time someone comes to our web site. A hit is every page viewed once a user enters our web site.

MAGS receives requests from school teachers and scout troop leaders in the Greater Memphis Area on a regular basis, asking for assistance in educating the children of our communities in geology and paleontology. If you would like to be a "Roger Van Cleef Education Program" volunteer, please contact W.C. McDaniel.

Ode to a rock swap



*Warm weather is coming; it's on the way.
I have a question to ask you today.*

*Would you like a picnic with good friends and rocks?
If you host a rock swap, to your backyard we will flock.*

*With our lawnchairs and tables to display our things
We'll have potluck dishes, chips and desserts when your doorbell rings.*

*If you are willing to host a rock swap, please contact me.
My name is Sherri at 853-3603.*

POEM BY SHERRI BALDWIN, MAGS DIRECTOR—HISTORIAN

March DMC Field Trip

The DMC Program of the SFMS Field Trip Committee

Presents An Official Field Trip of:

the Gaston County Gem, Mineral and Faceting Club, Gastonia, NC (Host)
and the Memphis Archaeological and Geological Society

8:00 AM - Noon • Saturday, March 18, 2006

WHERE: Martin-Marietta Aggregates Quarry, Statesville, NC. Meet at the quarry office at 8am Sharp! We will need to leave by Noon. This is a working quarry and safety requirements are strict! All participants will be required to wear hard hats, safety glasses and steel toe shoes. Upon arrival you will be required to sign a waiver of liability. There is a safety orientation and if you miss it, you may not be allowed into the quarry. Everyone will need to sign a release and receive information on boundaries and safety in the collecting area. Stay away from high walls and be cautious as to footing at all times! Watch for moving equipment! - You will be much smaller than they are!

COLLECTING: Garnets in mica schist. Occasionally you may find kyanite, hornblendes, quartz types, pyrite and rarely chalcopyrite.

DIRECTIONS from Charlotte/Gastonia: Take I-85 North to I-77 North. Upon arrival in Statesville take I-40 west 2 miles to exit #150 which is Hwy 115. The quarry entrance is on the left- BEWARE OF TRUCKS! Severe conditions may cancel the trip, but our weather is usually quite mild this time of the year.

WHAT TO BRING: You will need to bring your own food and drink to the quarry, but it is only a few minutes from the interstate and town. Rock hammer, chisels, pry bar, scratching tools, buckets and newspaper to wrap your finds.

CONTACT: Doug Dover 704/825-9580 for further questions. If no answer, leave a message or you can e-mail: ddover@carolina.rr.com.

Field trips are open to all members of associated clubs of the DMC program of the SFMS Field Trip Committee and to all members of SFMS member clubs who have provided their membership with SFMS liability insurance. Because of insurance requirements, members of the GENERAL PUBLIC are NOT invited on this or any DMC program field trips!

DMC Program/SFMS Field Trip committee's purpose: To collect field trip information from it's member societies; schedule and coordinate field trip dates; disseminate field trip information to all member clubs so that each member society may publish this information as one of their "official" scheduled field trips.

Federation Shows and Conventions

California Federation

Hosts: Calaveras Gem and Mineral Society • Angels Camp, CA •
June 9-10, 2006.

Eastern Federation

Hosts: Gem and Mineral Society of Palm Beaches, Inc. • West Palm Beach, FL •
November 18-19, 2006.

Midwest Federation

Hosts: Midwest Mineralogical and Lapidary Society • Detroit, MI •
May 12-14, 2006.

Northwest Federation Annual Convention and Show

Hosts: Southern Washington Mineralogical Society and Mt. Hood Rock Club •
Longview, WA • July 14-16, 2006.

Rocky Mountain Federation Annual Convention and Show

Hosts: Stillwater Mineral and Gem Society • Stillwater, OK • June 9-11, 2006.

South Central Federation Annual Convention and Show

Hosts: Austin Gem and Mineral Society •
Austin, TX • December 2-4, 2006.

Annual Convention of the American Federation of Mineralogical Societies and the Southeast Federation of Mineralogical Societies

Hosts: Middle Tennessee Gem and Mineral Society • Nashville, Tennessee •
August 14-20, 2006.

YOUTH NOTE: Natalie Wins Award

RAYNEE RANDOLPH: We will continue our study of mines and mining in March with a video called "Out of the Rock". Don't miss it. I would like to congratulate one of our youth members for doing such an outstanding job at the Memphis Shelby County Elementary Science Fair in February. Natalie Prodanovich, daughter of Tom and Susan, and member of MAGS since March 2005, constructed a project which caught the eye of our Earth Science judges at the fair. Her project is called "Mud Makes Me Mad!!!" Natalie wondered why water stays so long in her yard after a rain, but the same amount of rainfall on her grandparents' yard way over on the west coast of the United States seems to soak right in. She tested the soil from both locations and found out why! Now you will have catch Natalie at the March meeting and ask her what she found out. Congratulations to Natalie for winning the Roger Van Cleef Outstanding Achievement in Earth Sciences Award (whew . . . that's a mouth full) and \$25 to spend at the Rock Show next month. Keep up the good work Natalie, and (by the way) you just earned a lot of points toward Junior Rockhound of the Year.

ON THE ROAD JOURNAL:

Reproduction Pottery Workshop of the Ancient Indians of Arkansas, "The Mound Builders"

SHERIDA EDDLEMON HELMS: The Mississippian Indian culture began around 900AD and ended about the mid 1600s shortly after the arrival of Hernando DeSoto. The potters of this ancient culture never developed the potter's wheel or kiln to fire their pottery. Their pottery was produced using the coil method and skillful hands. The clay from the river banks was "shell tempered." Mussel shells were collected then finely crushed. The shell temper was mixed with clean clay. Finish products were fired in an open fire pit. A wood fire burns at about 800 degrees. Pottery was turned by hand using sticks and other implements during the firing process.

Our family, consisting of David, Sherida and Kris Helms and Rhena South attended an introductory pottery workshop on January 21, 2006 at Parkin Arkansas State Archaeological Park, Parkin, AR. We learned the process of making shell tempered pottery using the same methods and materials that the Indians of the Mississippian period would have used.

Our instructor furnished 5 gallon buckets of clay from the banks of the St. Francis River along with pieces of semi crushed mussel shells from the same river. Handfuls of clay were first cleaned of debris and any worms. The cleaned clay was then hand kneaded into small firm balls working out the lumps. The temper was made by pressing the semi crushed mussel shells against a small vegetable strainer. The temper was then mixed in with the clay. Coils of clay were made and each person made their own creations.

The pottery has to dry approximately two weeks. Angela Benderman, Our instructor, took the pottery home. The pottery has to have some minor constant attention during the drying process. The firing process will be done on January 25th using a fire pit. Shey Lewis, Chief Park Interpreter, Parkin Arkansas Sate Park was wonderful. I recommend this workshop to our club members. Parkin, AR is about a one hour drive from Memphis. We are all keeping our fingers crossed that our own pottery works survive the firing process.

28th Annual Memphis Shelby County Elementary Science Fair Results

MIKE BALDWIN: MAGS members Sherida Helms, Randa Spears, James Butchko, Mike Baldwin and W.C. McDaniel spent some quality time together as elementary science fair judges on February 28. The focus of our observations was on earth science projects submitted by students from all over Memphis and Shelby County and there were over thirty worthy projects in that category. After examining the projects and discussing the merits of each, we finally made our decisions on which projects made the winners' list . . . and here they are.

In the K-3 category we chose three winners. The Roger Van Cleef Outstanding Achievement in Earth Sciences Award and a Fossil Box goes to Jean Arehart's Kindergarten Class, Kate Bond Elementary School for their project called "Where Did My Playground Go?" Ms. William's Kindergarten Class, Levi Elementary earned the Roger Van Cleef Scientific Achievement Award for "What Are Fossils?" and Ms. Hastings 3rd Grade Class, Collierville Elementary earned the Roger Van Cleef Scientific Achievement Award for "Fun Fossil Findings". All K-3 winners also receive free admission to our show.

In the 4-6 category there were also three winners. All three earned the Roger Van Cleef Outstanding Achievement in Earth Sciences Awards, free admission to our show, and \$25 each. The winners are: Trevin Harris, 4th Grade, Richland Elementary, for "History Under Our Feet"; Natalie Prodanovich, 4th Grade, Dogwood Elementary, for "Mud Makes Me Mad!"; and Dalton Morgan, 5th Grade, Bartlett Elementary, for "Are Rocks Fluorescent?" Congratulations to all the winners!

January 2006 Board Meeting Notes

SUSANTHOM: The MAGS board of directors met on January 5, 2005 at the Blue Plate Café, 5469 Poplar Avenue, presided by WC McDaniel, who opened the meeting at 6:30pm. In attendance were: Mike and Sherri Baldwin, Melba Cole, Nancy Folden, Idajeon Jordan, WC and Cornelia McDaniel, Park and Terri Noyes, Raynee Randolph, Susan Thom and Lou White.

- (01) **Treasurer's Report** presented by Cornelia McDaniel. Proposed dollar amounts need to be added to the 2006 budget.
- (02) **Adult Programs** presented by Idajeon Jordan. In January, Tom Miller will present program on Peabody Museum in Memphis. In February, a representative from the University of Memphis Center for Earthquake Research will speak. Bill Pryor from Little Rock, AR will present the March program. He will discuss some of the northern AR geological survey experiments being done and how a state fossil is decided.
- (03) **Youth Programs** presented by Raynee Randolph. Cupcake core mining (drilling for minerals) is the program this month. Look at www.womeninmining.org as an excellent website to obtain information on mining. Rockhound of the Year Awards presentation will be at February meeting.
- (04) **Library** presented by Nancy Folden. New reference books in honor of George Fulghum and Roger Van Cleef were suggested.

- (05) **Membership Directory** presented by Mike Baldwin. Work on this year's directory will begin soon.
- (06) **Membership** presented by Cornelia McDaniel. One family and one single application were submitted. Dan and Barbara Reed of Walls, MS and Jennifer Baldwin (previously under Mike and Sherri Baldwin family membership).
- (07) **Rock Swap** presented by Sherri Baldwin. Waiting for warmer weather to begin scheduling.
- (08) **Show Committee** presented by WC McDaniel. Planning committee to meet January 12. Most out-of-town contracts have been received.
- (09) **Old Business:** Ron Brister has agreed to have two more tours of the "Behind the Scenes" at the Pink Palace in February. First choice goes to members not able to attend last time.
- (10) **New Business:** (a) Randa Spears is our new Director-Assistant Programs (b) Roger Van Cleef Educational Program and Earth Science Award to be set up in honor and recognition of Roger. Program will help provide our club representatives with necessary resources to present educational programs to schools, scouts, etc. The award will be presented to science fair participants who submit exceptional projects. (c) Movies/field trip videos will be available for viewing during refreshment break on our new television starting in February.

January 2006 Membership Meeting Notes

SUSANTHOM: The MAGS membership meeting was held at Shady Grove Presbyterian Church on January 13, 2005, presided by president WC McDaniel. There were 66 members and 11 visitors—Daisy Arthus, Lorraine Bradford and sons Parker and Nathan, Teresa Kennedy, Geoff and Tommie Day, Gary and Leisa Law, and Tom and Kathryn Miller.

- (01) Welcome to new members Dan and Barbara Reed.
 - (02) Randa Spears is our new Director (Assistant Programs). Along with assisting adult programs, she will also help with organizing the displays and awarding of prizes.
 - (03) The Roger Van Cleef Educational and Earth Science Award Program has been established. Members can help by donating money and/or mineral and fossil specimens.
 - (04) Ron Brister will again lead the Pink Palace "Behind the Scenes" tours on February 11 and 12.
 - (05) Silent Auction will close at the end of the meeting.
 - (06) No field trip in January. Field trips will normally be scheduled one weekend after the membership meeting. DMC field trip is January 28 to northwest Georgia.
 - (07) Tom Miller, 28 years as curator of Pink Palace Museums, gave adult program on Peabody Place Museum and the Belz Chinese Jade collection.
 - (08) January 17 deadline for William Holland registration.
 - (09) Winners: Question—Beth Day; Door prize—Gary Law and Jimmy McNeal
 - (10) Junior displays: Alexa Quелlette and Karen Schaeffer (winners) and Rachel Griffin. Adult displays: Beth/David Day, Mary Klug, Carol/Matthew Lybanon (winners).
- Meeting adjourned at 9:30 pm.

Thank you Ron

Those of us who have had the opportunity to join you on one of your "Behind the Scenes" Pink Palace tours, thank you very much for taking the time to share your Pink Palace expertise with us. We had fun and expanded our knowledge at the same time.

Wells Creek Impact Crater from page one

protective rim of hills surrounding the basin. The low central hill could be defended easily. Dense flint found in great abundance in the hills about five miles to the west could be patiently worked into arrow and spear points for war and hunting, large ceremonial flint objects, and many other useful items.

When the first white settlers came from North Carolina and Virginia, they were impressed by the relatively flat, well-drained basin. The soil was better than that of the surrounding hill country. Not only was the soil fertile and essentially free of chert blocks, but it also presented within a small area a variety of soil types formed by the weathering of many types of rock exposed there. Here in the basin, a highly agricultural society developed. The owners, their neighbors and visitors, knew that the soil was different and that the rocks were unlike others in the region. Undoubtedly many wondered why.

The center of the Wells Creek crater contains some of the finest shatter cones in the world. A shatter cone is a conical fragment of rock that is formed from the high pressure of a meteorite impact and has striations radiating from the apex of the cone. The Wells Creek shatter cones were actually formed by the shock waves that arrived before the limestone beds were tilted by the meteorite. The cones formed pointing toward the place from which the shock waves came. The Wells Creek shatter cones were formed by shock waves coming from a position which was (at the time of impact) more than 2,000 feet underground.

On Saturday, February 25, 2006 about 20 members of the Memphis Archaeological and Geological Society



were given a grand tour of the Wells Creek Crater by Tennessee state geologist, Marvin Berwind. Mr. Berwind gave us an overview of the formations and fault patterns that make up the Wells Creek structure. We were given an opportunity to view the structure from several locations along the rim before venturing into the crater for an afternoon of exploration and shatter cone collecting at ground zero. Shatter cones were very abundant, although most required a little bit of work to extract from the limestone formations. The Wells Creek shatter cones averaged from about a quarter of an inch to two or two and a half inches in diameter,

Inside Wells Creek Impact Crater

MAGS member, Mike Baldwin, searching for shatter cones at ground zero, Photo by Jennifer Baldwin, MAGS field trip, 02.25.06.

Shatter cone

Wells Creek
Impact Crater.

although shatter cones outside that range were also available.

REFERENCES:

[01] Charles W. Wilson, Jr. and Richard G. Stearns. Circumferential Faulting Around Wells Creek Basin, Houston and Stewart Counties, Tennessee. Journal of the Tennessee Academy of Science. Vanderbilt University, Nashville, Tennessee. 1966.

[02] Charles W. Wilson, Jr. and Richard G. Stearns. Bulletin 68: Geology of the Wells Creek Structure, Tennessee. State of Tennessee. Department of Environment and Conservation. Division of Geology. Nashville, Tennessee. 1968. Reprinted 1993.

[03] Wells Creek Crater. Wikipedia. Answer.com. <http://www.answers.com/topic/wells-creek-crater>. 27 February 06.

The main purpose of Memphis Archaeological and Geological Society is to promote and advance the knowledge of the Lapidary Sciences in the mining, identification, cutting, polishing and mounting of gems, minerals and fossils to the utmost of our geological and lapidary capabilities.

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AFMS NEWSLETTER AWARDS:

New Editor 7th-95 • Small Bulletin Honorable Mention-04 • Adult Article 10th-04 • Junior Article 3rd-98; 8th-03 • Special Pub 4th-03

SFMS NEWSLETTER AWARDS:

New Editor 1st-86; 2nd-88, 97 • New Editor (Explorer) 4th-03 • Certificate of Excellence-89, 90, 91, 92, 93 • Large Bulletin 1st-87 • Small Bulletin 1st-04, 4th-03 • Special Publication 2nd-03 • Art 77, 80, 81, 82, 86 • Junior Article 1st-03 • Adult Article 2nd- 89, 90, 04; 3rd-92; 4th-85, 04; 5th-91, 03; 6th-87; 8th-04; Honorable Mention-03, 04

DUES: \$20 (Family); \$16 (Single); \$8 (Junior)

MARCH 2006

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

- Mar 02 6:30P MAGS Board Meeting - Blue Plate Café, 5469 Poplar Avenue
- Mar 04 TBA MAGS Field Trip - Nonconnah Creek, Memphis, TN • see page 4
- Mar 10 7:30P MAGS Membership Meeting - Shady Grove Presbyterian Church, 5535 Shady Grove Road • Bring displays and refreshments • Adult Program: Arkansas Minerals and Fossils • see page 3 Youth Program: "Out of the Rock" • see page 7
- Mar 18 8:00A DMC Field Trip - Statesville, North Carolina • see page 6
- Mar 18 9:00A MAGS Field Trip - Cookeville, TN • see page 4



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