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Burning Waste Coal

Cogeneration from Waste Coal



Coal is an organic sedimentary rock. It has been and still is economically important to the technological advancement of the United States. It supplies fuel for electricity. Although mines of today are technologically advanced and the companies involved work within regulations to minimize the effects of mining on the environment, this has not always been so. The effects of old mining can be seen in many places in the United States. In some areas of the country, large piles of waste coal lie near coal mines that have been abandoned for years.

see Burning Waste Coal on page five ...

DECEMBER MAGS EVENTS

- 02 6:30p Board Meeting @ Blue Plate Café, 5469 Poplar Avenue
 - 04 8:30a DMC Field Trip to Graves Mountain, Lincoln County, GA [see page 6 for details]
 - 10 7:30p General Meeting @ Shady Grove Presbyterian Church, 5535 Shady Grove Road
- Annual Holiday Party: Bring your favorite dish to share and bring a hobby-related gift [valued at least \$10] for gift giving [one gift per person in your group] see page 3 for details
- No MAGS field trip in December [watch the newsletter for the next MAGS field trip]
- No Fossil Section Meeting in December [meetings resume in February at Roger's house]



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FROM THE PRESIDENT

MAGS last membership meeting of 2004 will be our Holiday Party on Friday, December 9. An announcement with information is included in the newsletter; new members are encouraged to attend. We ask you bring a dish or two and if you want to participate in the gift exchange, a hobby related gift valued at \$10.

The November 20th field trip to Black Rock, Arkansas was one the best of the year. It was a pink, white, blue and red day. Pink for an abundant amount of dolomite, white for an abundant amount of calcite, blue for a beautiful day and red for the blood on the specimens of dolomite and calcite being pulled out of vein by persistent Tracy Motter.

Our 2005 membership meeting display winners for the adults were Lou White (twice), Dennis Sanders (twice), Mike Baldwin, Sherri Baldwin and Alan and Jean Helt. Youth winners were Rhena South (four times), Megan Givens, Karen Schaffer and Charlie Thomas. Prizes will be give at the Christmas party.

Reminder to members, 2005 dues are now payable. Dues are the club's primary source of income and provide for building rental, newsletter publication and mailing, federation dues and special events and activities.

WC McDaniel

NEW LIBRARY ADDITIONS

NANCY FOLDEN, MAGS LIBRARY DIRECTOR: If you are interested in beading, we have a treat for you. While attending classes at William Holland recently, I had an opportunity to purchase three new additions for the MAGS library—two videos and a book. They are: [1] Pearl and Bead Stringing with Henrietta, a book by Henrietta Virchick; [2] Beads 'n More by Addy: Basic Beadstringing Techniques, a video by Addy Depietro, and [3] Mystical Melts by Addy, a video by Addy Depietro. The library will not be open during the December Holiday Party, but you are welcome to check out these new additions beginning in January, 2005.

DUES ARE DUE

MIKE BALDWIN, MAGS EDITOR: 2005 dues are due now. Please take a minute to renew your membership in MAGS for 2005. Make your check payable to MAGS. Family membership is \$20.00, single membership is \$16.00, and junior membership is \$8.00. Dues will not be collected at the December Party, so please take care of it now, before you forget. You can mail your check to Cornelia McDaniel, 2038 Central Avenue, Memphis, TN 38104. Thank you for your membership in MAGS.

DECEMBER 2004 MAGS HOLIDAY PARTY



FRIDAY NIGHT • DECEMBER 10, 2004 • 7:30PM

SHADY GROVE PRESBYTERIAN CHURCH • 5535 SHADY GROVE ROAD • MEMPHIS, TN

BRING FAMILY, BRING FRIENDS, BRING FOOD, BRING GIFTS, BRING YOUR HOLIDAY SPIRIT

Mark your calendar now for the Annual MAGS Holiday Party. If you would like to help decorate and prepare the fellowship hall for our party, come early. If you can help clean up after the party, plan to stay late. Board members and officers, don't forget to bring canned soft drinks.

- [1] You and your family are invited to the party. You are welcome to bring a friend or two with you. Attire for the evening will be casual to semiformal.
- [2] Please bring a potluck dish big enough to share. Turkey, ham, drinks, condiments and dinnerware [plates, cups, utensils, and napkins] will be provided by MAGS. The dish that you bring can be an appetizer, salad, side dish, bread, or dessert.
- [3] For the gift exchange, there will not be a distinction between women's, men's, or children's gifts. Please bring a gift that can be enjoyed or used by anyone, no matter what age they are. All gifts will be placed on one table, so when it is your turn to choose a gift, there will only be one place to choose

from. Please bring a gift that you would be happy receiving if it came from someone else. The minimum value of your gift should be \$10.00. Bring one gift from each person in your group. If there are four of you, bring four gifts. If you bring guests, please bring a gift for your guest to exchange. The gifts will be collected and numbers will be assigned to each person in attendance. These numbers will be used to draw names for gift exchange and to draw names for door prizes. If you bring "extra" gifts, please make sure that those gifts are also valued at least \$10.00. All gifts should be related to our hobby.

- [4] The names of the monthly display winners [adults and juniors] will be placed in a drawing for display winner gifts, provided by MAGS.
- [5] A holiday fireplace and mantle will make a nice backdrop for pictures of family and friends, so bring your camera. Come to the party on December 10, and let's enjoy food, fun, and fellowship together.

NOVEMBER FIELD TRIP REPORT: BLACK ROCK, ARKANSAS

CORNELIA McDANIEL: NOVEMBER 23, 2004: Eight MAGS members arrived at Renee's Café to begin the day with a hearty country breakfast. For a November morning, the weather could not have been more pleasant. Following breakfast, our field trip caravan left for the quarry. For safety compliance, the mining office required each of us to complete the appropriate documentation and adhere to OSHA standards for protective gear. With steel-toed boots afoot and hard hats atop, our team snaked its way down the limestone road toward the collecting site. Following a safety briefing from our quarry representative, we enthusiastically set about collecting pink dolomite and calcite rhombs and crystals with pyrite inclusions.

Black Rock quarry is a working mine area and a face had just been blasted the week before our arrival. Amidst the wafting odor of dynamite, the exposed pink dolomite and calcite was abundant and easily collected. The quality and quantity was superlative and members took advantage of this opportunity to collect a substantial and well-needed donation for the 2005 Gem Dig.

MAGS was one of several regional clubs and groups participating in the event and it was a perfect opportunity to meet new people and make new friends with kindred spirited people.

PINK DOLOMITE



WHERE DO OIL AND GAS COME FROM?

MIKE BALDWIN, EDITOR: I'm sure you have been affected by the fluctuation and ever-increasing cost of gasoline this year. As I thought about oil and gasoline supplies, I became curious about the location of oilfields around the world, so I took a look at a map showing the world's oilfields. Most of the Earth's oil-producing areas lie in sedimentary basins [many of them, surprisingly, in the United States and Canada]. Oil does not survive igneous or metamorphic activity.

Coal, oil and gas—the fossil fuels—power industrial societies all over the globe. All three of these fuels may have originated from long-dead organisms that suffered incomplete decay. Coal is indisputably the carbon-rich remains of ancient forest, but the origins of oil and gas are more obscure and have been open to debate.

Most geologists believe that natural gas and oil derive from tiny marine organisms that died and sank to the bottom of the sea many millions of years ago. Compaction changed surrounding sediments to mudstones and shales. The resulting heat and pressure probably produced bacterial processes that helped transform the organisms into hydrocarbons—compounds composed of mainly hydrogen and carbon.

Forces in the Earth's crust drove most hydrocarbons from the rock in which they formed. They percolated up through permeable sand, sandstone, or limestone until trapped below a layer of impermeable rock. So the permeable rock below the trap became a fossil fuel reservoir. Here, the natural gas floats on a layer of sticky to runny black to yellow liquid—a complex mix of hydrocarbons that we call petroleum. This petroleum floats on an even denser substance, water.

see oil and gas on page seven

FOR SALE

MAGS member, Bill Scheffer has a 50 pound bag of oxalic acid [unopened] for sale. Price is negotiable. If you are interested, please give Bill a call at 901-358-1194.

ooo

If you have lapidary equipment, tools, books, mineral specimens or anything related to our avocation that you would like to buy or sell, consider mentioning it in MAGS Rockhound News. Send your request to Mike Baldwin, MAGS Editor, 367 North Main Street, Collierville, TN 38017 or email rockclub@earthlink.net

WEB REPORT

MIKE BALDWIN, MAGS WEB COORDINATOR: Here's a brief look at our website (www.memphisgeology.org) from 01.21.02 through 11.27.04:

Visits [every time someone comes to the site] 114,759
 Hits [every page viewed on the site].....501,487

Top pages in the past 30 days:

argon2003.pdf1,354 hits
 Home Page..... 555 hits
 Explorer0203.pdf..... 528 hits
 Explorer1202.pdf..... 330 hits
 RockNews1002.pdf.....294 hits
 RockNews0902.pdf.....245 hits
 Herkimer.html 233 hits
 Average visits/day this past month.....244

DEADLINE FOR SUBMITTING NEWS, ARTICLES, ANNOUNCEMENTS, OR PICTURES FOR THE JANUARY ISSUE OF MAGS ROCKHOUND NEWS IS **DECEMBER 19, 2004.**

WELCOME NEW MEMBERS

CORNELIA McDANIEL, MAGS MEMBERSHIP DIRECTOR: Please join me in welcoming two new members to MAGS this month. Add them to your directory and make them feel at home. Welcome, Doug and Beth Behm, 2255 Beekman Cove, Germantown, TN 38139, 901-755-6186.

The new MAGS Membership Directory will be printed in early 2005. To insure that you get your copy, pay your dues on time. Dues are due on or before January 1, 2005.

Burning Waste Coal

... continued from page one

Burning Waste Coal

Waste coal is a by-product of coal mining. It is poor-quality coal that could not be used at the time it was mined and was usually piled up on one side of the mine. The piles of waste coal not only are unsightly, but because of high sulfur content, they can also generate acid runoff when rainwater flows through them.

With processes available today, this coal can be burned without creating air pollution. The coal is trucked to a burning facility where it is pulverized and mixed with pulverized limestone. The limestone removes more than 90 percent of sulfur dioxide emissions. This surpasses current government-mandated levels. Compliance with pollution-control laws is regulated by monitoring air-quality levels.

Once the coal-limestone mixture has been burned, the residue ash is trucked back to its original pile. Mixing with limestone has changed the acidic waste coal to alkaline ash. It creates no acid mine drainage and works to alleviate the acidic problems caused by the pile of waste coal. The ash has a high affinity for water, and when it is hydrated, it changes to a low-grade cement. The resulting concrete mound is buried and covered by layers of topsoil. The topsoil is seeded to establish vegetation. The lay of the land has been returned to what it was, and the mound

see Burning Waste Coal on page eight ...



DECEMBER BIRTHDAYS

Birthstone = Blue Zircon

| | | |
|---------------------|-----------------------|----------------------|
| 2 - Sharon Muir | 8 - Martha Rannels | 18 - David Prudhomme |
| 2 - Shelley Ramsey | 9 - Marilyn Free | 19 - Paula Gunter |
| 3 - David Helms | 9 - Nichalas Hurley | 20 - Ed Underhill |
| 5 - Kim Prudhomme | 9 - Angela Underhill | 21 - Joel Huber |
| 6 - David McAlister | 10 - Docia Lenz | 23 - Jimmy McNeil |
| 6 - Horace Roane | 15 - Jerry Seamans | 24 - Allen Grewe |
| 6 - Lynn Spencer | 17 - Natalie Horowitz | 26 - Keith Dulin |
| 8 - Diane McIlwain | 17 - Susan Thom | 30 - Rick Bethune |



SUNSHINE REPORT

CORNELIA McDANIEL, MAGS MEMBERSHIP DIRECTOR: This month we want to send condolences to the family of former member Martha Ann McPherson who passed away on November 3rd. We also send CHEERS to Janice Sanford and Frances Walker. We hope to see you up and about again soon.

MAGS ROADCUT

Welcome to the MAGS ROADCUT. ROADCUT is designed to provide general information and news for rockhounds. .

This month Roadcut focuses on the direct contributions and grants MAGS has made over the past several years. All funds, except as noted, were generated from our annual show:

- 2001- \$1,000 contribution to the Ronald McDonald House of Memphis, a home away from home for patients undergoing treatment at St. Jude.
- 2001- \$1,000 contribution to the Friends of Chulisscia
- 2001- \$1,000 grant to Delta State University of Cleveland, Mississippi for the development of an earth science program for children and to assist in the purchase of a large collection of ice age fossils found along the Mississippi River.
- 2002 -\$1,000 contribution to the Ronald McDonald House of Memphis
- 2002- \$1,000 grant to the Tennessee Earth Science Teaches (TEST) for the development and distribution of fossil boxes for use in earth science education programs
- 2003- \$1,000 contribution to the Ronald McDonald House of Memphis
- 2004- \$1,200 contribution to the Ronald McDonald House of Memphis
- 2004- \$500 grant to the Tennessee Earth Science Teaches (TEST) for the development and distribution of rock boxes for use in earth science education programs
- 2001-2004- \$600 to the Memphis-Shelby County Science Fair -earth sciences winners(club account)

Send your MAGS Roadcut News to WC McDaniel at cfmcdaniel@worldnet.att.net

SOUTHEAST FEDERATION NEWS



DMC Program of the SFMS Field Trip Committee
An Official Field Trip of the Augusta Gem and Mineral Society (Host)
8:30am [EST] Saturday, December 4, 2004
40+ Mineral Specimens • Graves Mountain, Lincoln County, GA

Assembly Point: 8:30 a.m. at the Hardees Restaurant which is located at the junction with Hwy. 378 in Lincolnton, GA. We will convoy to Graves Mountain, starting at 9:00 am.

Directions: From Washington, GA travel East on Hwy 378 to Lincolnton. From Augusta, take Washington Road toward Clarks Hill Lake, when Washington Road ends, turn left to Lincolnton.

Material: Rutile, Lazulite, Kyanite, Blue Quartz, Pyrophyllite, Goethite/Hematite (iridescent), Pyrite, Muscovite (clear to green) and Ilmenite are some of the best known and most frequently found. Forty plus species are known from Graves Mountain, most being in micro size. Some of these that are found in crystal form are Barite, Cacoxenite, Crandallite, Gypsum, Phosphosiderite, Strenigite, Sulfur, Variscite, Wavellite and Woodhouseite.

Equipment: Any or all of the following. Some sort of transport vehicle (cart), buckets, 8 lb sledge, 2-4 lb crack hammer, rock hammer, pry bar, shovel, chisels, safety eyewear, magnifier, back pack w/egg cartons and /or wrapping material. Hard hat required if you plan to work adjacent to the high wall areas. Bring your own food and drinks as there is nothing available at Graves Mountain.

Entry Fee: \$5.00 per person will be collected as your "Letter of Agreement & Release" form is filled out.

Additional information: Children 12 years and older can participate, but must be supervised by a parent or guardian. Pets must be kept under control by the owner. Field trip chairman is Glenn Williams (706)737-8531.

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!

DECEMBER SFMS SHOWS AND OTHER EVENTS

Dec. 3-5 Greensboro, NC-Greensboro Gem and Mineral Club. 34th Annual Gem, Mineral, Bead, Jewelry Show and Sale. Greensboro Coliseum, 1743 E. Lees Street. Hours 10am to 5pm. Contact Joe Maguire at 336-288-7452 or joe_maguire@prodigy.net.

Dec. 3-5 Spring Hill, FL-Withlacochee Rockhounds. Slovene American Club, 13383 County Line Road, Exist I-75 at Brooksville, Route 50W, to US 41, 6 miles south to County Line Road. Contact Jerry Johnson at 352-688-7810 or hisnibs@earthlink.net.

Dec. 10-12 Norcross, GA-Georgia Mineral Society. 11th Annual Gem and Mineral Holiday Show, North Atlanta Trade Center, 1700 Jeurgens Court, Norcross, GA 30093. Hours: 10-11, 10am to 6pm; 12, Noon to 5pm. Contact Kim Cochran at 770-979-8331.

Dec. 11-12 DeLand, FL-Tomoka Gem and Mineral Society. Volusia County Fairgrounds. Hours: 11, 10am to 6pm; 12, 10am to 5pm.

Dec 11-12 Nashville, TN-Middle Tennessee Gem and Mineral Society. 24th Annual Earth Treasures Show. Creative Arts Building at the Tennessee State Fairgrounds. Hours: 11, 9am to 6pm; 12, 10am to 5pm. Contact Mary C. Sparks at 615-485-0718

MAGS REVIEW

September 30, 2004 Board Meeting Notes

RAYNEE RANDOLPH: The MAGS board of directors met September 30, 2004 at the Blue Plate Café, 5469 Poplar Avenue. The following were present: Mike Baldwin, Nancy Folden, Idajeane Jordan, Cornelia and W.C. McDaniel, Park and Terri Noyes, Raynee Randolph, Bill Scheffer, Roger Van Cleef and Lou White. The secretary's minutes from the September board and general meetings were accepted and approved. The following reports were given: [1] Treasurer: The financial report was given. Alan Parks will audit the clubs treasury; [2] 1st VP: The trip to Richardson's Landing will depend on height of the river. The property where we had easy access to the sand bar is now posted. Be prepared for along walk in and out. A tentative trip to Florence, Alabama may be a backup trip to Richardson's Landing. A trip scheduled for October 30, to the Arlington site of MSG, will be in the afternoon; [3] 2nd VP: Retired astrophysicist Dr. Garrit Verschuur will be presenting the program for October and November will be Guy Weaver; [4] Web: Keep those articles coming. This makes my job so much easier when all I have to do is pull articles together for the newsletter. Thank you; [5] Library: Thanks to Sherri Baldwin for filling in for me last membership meeting and opening the library; [6] Juniors: Sherida Helms will talk to the juniors about the merit badge program and Idajeane will have "experiments"; [7] Membership/Sunshine: There is a new address for Ron Brister. "Rock Starz Shine" this month will be Sherida Helms and Rhena South; [8] Show: The show committee met September 9th. Proceeds from the show will again be donated to RMH, there is a modest increase in the price of tables and the door prize will be a cathedral amethyst. The next meeting will be October 7, 6:30pm. James Butchko will be show chair for 2005, with W.C. as co-chair. James Butchko will be full chair in 2006; [9] Old Business: Rock Swap at Debbie and Alan Shaeffer's on October 9; [10] New Business: [a] November 13 Rock Swap and Fish Fry will be at Alan and Alisha Parks. Admission price will be a box of rocks for the gem dig; [b] Membership dues for 2005 will remain as current; [c] Nominating committee will present a new slate of officers at the membership meeting; [d] A show mailing list will be passed out to the board and at the membership meeting. Fill out any names and addresses you can think of for a show mailing. Adjourned at 7:25pm.

October 8, 2004 Membership Meeting Notes

RAYNEE RANDOLPH: MAGS October Membership meeting was held at Shady Grove Presbyterian Church on October 8, 2004, presided by President W.C. McDaniel. There were 42 members present and 3 visitors. The visitors were: Doug Behm, Madison Horowitz and Kelsey Lyons. [1] Up-coming Events: October 9-Rock Swap at the Schaeffer's from 10 until 2, potluck, rain or shine; October 14-Micor mount meeting at Roger's; October 23-Field trip to Richardson's Landing, be prepared for long walk in and out, also contingent on river level; October 29-30-Rock sale at Melba Cole's; November 4-Board meeting; November 11-Show committee meeting, 6:30 at W.C.'s; November 12-Membership meeting; November 13-Rock Swap and Fish Fry at Alan Parks', admission will be a box of rocks; November 20-Field trip to Black Rock quarry, steel-toed shoes mandatory; [2] Old business: James Butchko will be the show chairman for 2005. W.C. will be co-chair. [3] New business: The nominating committee has selected a slate of officers for 2005-2006. November 12 the membership will vote on the new slate of officers and nominations will be accepted from the floor. Paul Sides introduced Dr. Garrit Verschuur. The program will be "Fire and Brimstone-Comet Impacts During Historical Times." [4] Displays: Juniors-Rhena South. There were three door prizes awarded. Meeting adjourned for refreshments at 8:35pm.

OIL AND GAS from page four

University astrophysicist Thomas Gold rejected the "squashed fish" theory. Gold argued that natural gas and oil originated in the Earth's formation. He believed that enough of both fuels lies locked up deep in the Earth to last us millions of years. In the late 1980s, a Swedish deep-drilling project with Gold as an adviser found gas traces in cavities 3.7 miles below the surface. But more proof was needed to convince the skeptics. Most geologists still expect recoverable oil and gas supplies to dwindle sharply in a few decades.

REF: Lambert, David. *The Field Guide to Geology*. Facts On File, Inc. New York. 1998

Visit the Southeast Federation at <http://www.amfed.org/sfms> for federation news, Wild Acres and William Holland updates and [Lodestar](#) newsletter online.

2005 SFMS WORKSHOP SCHEDULE IS COMPLETE

MIKE BALDWIN: Details of the 2005 Wildacres and William Holland Workshops were printed in the November issue of MAGS Rockhound News. Two of the dates were not confirmed at that time, but now they are. The complete SFMS 2005 Workshop schedule is as follows:

| | |
|----------------------------|-----------------------|
| Session 1, Wildacres | April 18-24, 2005 |
| Session 2, William Holland | June 12-18, 2005 |
| Session 3, Wildacres | August 22-28, 2005 |
| Session 4, Wildacres | September 19-25, 2005 |
| Session 5, William Holland | October 9-15, 2005 |

All Wildacres sessions start on Monday and end on Sunday while both William Holland sessions start on Sunday and end on Saturday.

Burning Waste Coal ... continued from page five

can be used as a location for a park or playground.

Cogeneration

Some companies use waste coal to produce and export electricity. In addition to the electricity produced by burning waste coal, low-pressure steam from the process can be exported to meet community heating needs.

When power is generated in a power plant, both electrical and thermal energy are produced. The electrical power is used, but often the remaining power is lost as wasted thermal energy. In the process of cogeneration, both the electrical and thermal energy are used by the plant producing it.

Although the technology involved in burning waste coal and

disposing of the ash is relatively new, there already are several other possible uses for the idea. Coal seams in surface mines vary in quality. Some have a greater potential for acid mine drainage. In order to work these surface mines, the ash from burning waste coal could be used in the mine to alleviate the acidity.

Even though the ash produced by the burning of waste coal is returned to the waste site, why is this process considered good for the environment?

How does the process of cogeneration benefit not only the company using it, but others in the community as well?

Reference: Ralph Feather, Jr. and Susan Leach Snyder. Earth Science: Science and Society. McGraw-Hill. Westerville, OH. 1997.

THE MOON ECLIPSES JUPITER

NASA: NOVEMBER 29, 2004: On Tuesday morning, December 7th, about an hour before sunrise, you can see Jupiter rise over the Moon's mountains. At about 3:50am CST, Jupiter will pop up from behind the Moon, not far from the lunar "Sea of Crises" (Mare Crisium).

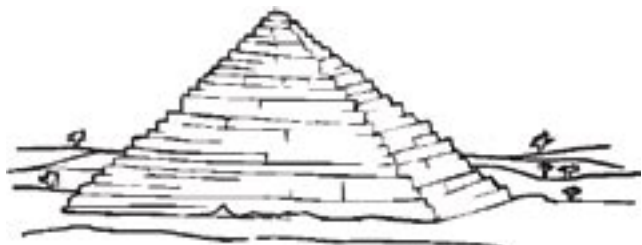
It's the tail end of an eclipse or "lunar occultation." The crescent Moon covers Jupiter at about 2:50am CST and uncovers it at 3:50am CST. The eclipse will be visible across the entire eastern two-thirds of North America. Exact times vary depending on location.

When the time comes, go outside and face southeast. Jupiter and the Moon will be about one third of the way up the sky. They're bright enough to beam through city lights. The only danger is that a building might get in the way, so pick a spot with a clear view of the southeastern horizon.

The end of the eclipse is better than the beginning. The eclipse begins on the sunlit edge of the Moon. The glare there is intense. The eclipse ends on the other side where the only source of illumination is gentle ghostly Earthshine. Jupiter is twice as bright as Sirius (the brightest of all stars) and when it rises above the Moon's dark edge ... wow! You can see all this with your eyes-no telescope required.

MINI-MAGS NEWS [WHAT'S HAPPENING WITH THE KIDS]

PYRAMIDS OF ANCIENT EGYPT



RHENA SOUTH, MAGS YOUTH MEMBER: The Great Pyramids of Ancient Egypt were built of limestone and granite. At the time these pyramids were constructed there were only tools of copper and bronze. About 2,300,000 blocks were used. On the Mohs hardness scale the tools are a 3.5 to 4. This is less than limestone and granite. There were no iron tools. Did they use saws with stones embedded with a greater hardness?

The pyramid had casing stones of limestone. They were very polished and had writing on them. Arab historian, Abd el Latif in 1179 AD, said that there were so many of these carved writings, that it would have taken 10,000 pieces of paper to hold them. In 1356 Cairo had an earthquake. The people needed stones to rebuild their homes and the city. They used the carved stones from the pyramids. These writing may have told us how the pyramids were built. My Mom said that even with today's technology, it would be hard to build pyramids.

References:

<http://easyweb.easynet.co.uk/~mark.haywood/egypt/pp2.htm>

<http://www.crystallotus.com/Pyramid/03.htm>

2005 JUNIOR OF THE YEAR

Now is the time for MAGS youth members to begin to consider participating in the SFMS Junior of the Year [JOY] contest. The application and cover sheet, together with explanations, proofs, letters, etc. must be returned to the SFMS Youth Resources Chairperson before November 10, 2005. Ask for details at the next MAGS meeting!

LIMESTONE: TN STATE ROCK

SHERIDA HELMS, MAGS MEMBER: Limestone was chosen as the Tennessee State Rock on Mar. 13, 1979. As one of mankind's and Nature's building blocks it is often underestimated in its impact of life. Limestone is a very common sedimentary rock. Tennessee was once covered with warm shallow seas. The sediment formed from the silt, coral reefs, and tiny animal skeletons compressed over 300 million years to form the limestone deposits of Tennessee. When limestone is metamorphized, it turns into marble. The building industry sometimes calls hard, high-quality limestone as marble even though it has not undergone those metamorphic changes. These websites can furnish more in-depth information on Tennessee's limestone formations: <http://www.shgresources.com/tn/symbols/rock/>, <http://en.wikipedia.org/wiki/Limestone>, and <http://www.infoplease.com/ce6/sci/A0836806.html>

Limestone is one of our most diverse natural resources. It has been used by man for hundreds of years. Limestone is one of the most basic building blocks that we have. The Egyptians quarried limestone to build the pyramids. Limestone was used as far back as 7,000 years in the area that is now known as Turkey in construction.

It is added to glass to make it stronger so that we can have windows, mirrors and other glasses. It is an ingredient in paint, in making cement, carpet underlay, plastics, pH adjustments to water, putty and caulking compounds, neutralization of chemicals, an extender in insecticides, and in highway construction. It takes 120 pounds of limestone to make one ton of steel. It is used as a filter to remove emissions from factory smokestacks and to purify and clean water.

Limestone has a wide range on the Mohs hardness scale. It can be anywhere from 3-7. Limestone used for floor tile has a Mohs hardness scale of 4-5. The amount of calcite, shells and pressure used to form the sedimentary rock cause the variations in the hardness.

Nature's building block. It is used by everyone. What a wonderful choice as Tennessee's State Rock.

ROCK STARZ SHINE: LOU WHITE AND PARK NOYES

CORNELIA McDANIEL, MAGS MEMBERSHIP DIRECTOR: This month we recognize the rock-digging duo of Lou White and Park Noyes. Lou and Park approach each MAGS event with enthusiasm and zeal. Although the recent Richarson's Landing field trip was officially cancelled due to rain, Lou and Park weathered the wet conditions and went anyway. They stayed there and escorted our out-of-town collectors

down to the river, where they all proceeded to collect for quite some time. Drenched to the bone, their efforts paid off as they found several very nice agates among the gravels. Thank you, Lou and Park, for the enthusiasm and willingness to go beyond the call of duty that you both show on a regular basis. You are the dynamic duo!

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AFMS NEWSLETTER AWARDS:

New Editor 7th-95 • Junior Article 3rd-98; 8th-03 • Special Pub 4th-03

SFMS NEWSLETTER AWARDS:

New Editor 1st-86 • New Editor 2nd-88, 97 • New Editor (Explorer) 4th-03

Certificate of Excellence-89, 90, 91, 92, 93 • Large Bulletin 1st-87

Small Bulletin 4th-03 • Special Publication 2nd-03 • Art-77, 80, 81, 82, 86 • Junior Article 1st-03

Adult Article-(2th) 89, 90; (3rd) 92; (4th) 85; (5th) 91, 03; (6th) 87; (Hon. Men.) 03

DUES:

Family-\$20.00

Single-\$16.00

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The Memphis Archaeological and Geological Society's main purpose 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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MAGS Rockhound News
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MARK YOUR CALENDAR

Board Meeting
December 2

DMC Field Trip
December 4

General Meeting
December 10

Dues Are Due
January 1

No Fossil Section
Meeting in Dec.

No MAGS Field
Trip in December

