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BLUEBERRIES SEEN ON MARS EXPLAINED ON EARTH

17 JUNE 2004 GEOLOGY NEWS: THE GEOLOGY SOCIETY OF LONDON: A flood of data – and associated new terminology – from NASA's Martian rovers continues, and in response, geologists continue to recognize these new features from environments on Earth, pinning down the conditions that must have existed on Mars in the past. One such discovery is an origin for the 'blueberries' photographed by the Opportunity rover. On Earth, remarkably similar features are hematite concretions, formed from the flow of within red sandstone.



Hematite concretions and Martian blueberries

Left image by Marjorie Chan and Brenda Beitler, University of Utah.

Right image by NASA Jet Propulsion Laboratory, Cornell University.

Used for educational purposes under the provisions of the "Fair Use Act of 1976."

Martian blueberries are round grey particles about the size of a blueberry (roughly 1cm across) that were found embedded in layers within rocks and scattered on the Martian surface around Opportunity's landing site in Meridiani Planum. They are rich in iron, in the form of grey hematite

see Blueberries Seen on Mars on page five . . .

AUGUST MAGS EVENTS



- 05 6:30p Board Meeting @ Blue Plate Café, 5469 Poplar Avenue
- 13 7:30p General Meeting @ Shady Grove Presbyterian Church, 5535 Shady Grove Road, Memphis [bring potluck dish and/or dessert; no displays; see page 4 for details]
3rd Annual Mid-Summer Night's Indoor Picnic and Rock Swap [Picnic and Rock Swap will be in lieu of regular meeting activities]
- 14 7:30a DMC Field Trip to Burnsville, NC for beryl crystals [see page 6 for details]
- 19 7:00p M3 Micromounters Meeting at the home of Roger Van Cleef
- 21 8:30a MAGS Field Trip to Frankstown, MS [see page 3 for details]

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FROM THE PRESIDENT

Back to school sales have hit the market, so it must be time for the MAGS' summer picnic and rock swap. This will be our third annual event and will occur during our membership meeting on Friday, August 13. Complete details are provided in another section of the paper.

The remaining months of the year will be busy with several events. One of the most important events occurs in September when MAGS will host the Dixie Mineral Council's monthly field trip. We will be going to Coon Creek the weekend of September 18/19. Complete details will be provided in the newsletter. The Dixie Mineral Council is a consortium of about 35 Southeast Federation clubs who have agreed to host a field trip open to only the participating clubs. Hosting rotates among the clubs. This gives MAGS

members access to a lot of field trips and sites that are not normally on our field trip itinerary. Please note these trips are open only to members of the clubs who participate on council. No visitors or guest.

In the next few months you will have the opportunity to participate in an event that is crucial and relevant to the continuing viability of the club. Election of officers. This will be the time and opportunity for you to think about serving as an officer. All offices are opened and when the nominating committee is named they WILL BE CALLING. Say yes.

Along the same line we need volunteers and commitments to serve on the show committee for 2005. If you would like to be involved and participate in the planning of the show let me know. New club members are encouraged to volunteer.

WC McDaniel

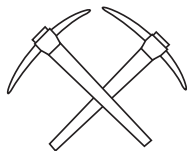
2004 MAGS FIELD TRIPS

DAVID McILWAIN: Mark your calendars and clear your weekends. Note the change for July. Here's what you have to look forward to:

AUG 21	Shark's teeth/fossils; W.M. Browning Cretaceous Fossil Park, Frankstown, MS
SEP 18-19	Fossils; MAGS hosts DMC at Coon Creek; Adamsville, TN
OCT 23	Agates, jasper, ice age fossils; Richardson Landing; Millington, TN
NOV 20	Fossils; Vulcan Quarry; Parsons, TN

DEADLINE FOR SUBMITTING NEWS, ARTICLES, ANNOUNCEMENTS, OR PICTURES FOR THE SEPTEMBER ISSUE OF MAGS ROCKHOUND NEWS IS AUGUST 21, 2004.

AUGUST 2004 MAGS FIELD TRIP



SATURDAY, AUGUST 21, 2004 • 9:00AM
FRANKSTOWN CRETACEOUS FOSSIL PARK • PRENTISS COUNTY, MISSISSIPPI
THIS FIELD TRIP IS OPEN TO MAGS MEMBERS AND THEIR GUESTS

Collecting site: Frankstown Cretaceous Fossil Park on Twenty Mile Creek – located in Prentiss County, MS. This trip is open to MAGS members and their guests.

Material: We will be collecting vertebrate fossils at these sites. Specimens include dagger like teeth of the shark *Scapanorhynchus*, brad-serrated teeth of the shark *Squalicorax*, teeth of the extinct fish *Enchodus* and *Xiphactinus*, turtle bones, mosasaur teeth and vertebrae, and crocodile teeth. Rare dinosaur teeth that include the grinding teeth of the plant-eating duck billed dinosaur (hadrosaur) and at least one tooth of a meat-eating theropod. Water-worn pieces of petrified wood were also common.

Meeting Time/Place: 9:00am, We will meet at the collecting site at the Frankstown Cretaceous Fossil Park on Twenty Mile Creek.

Driving Directions: From Memphis take I-240 East towards Nashville, then take the Nonconnah Pkwy. East exit number 16, towards Corinth. Take US-72 East, towards Corinth, then take US-45 South towards Tupelo. Continue on US-45 South for approximately 20 miles and look for the Cretaceous Fossil Park monument on the left at Twenty Mile Creek. Allow approximately 2 to 2 1/2 hours driving time.

Tools: Rubber boots or sandals, small rake or small garden tools, 1/4 to 3/16 inch grid sieve box, small shovel and small pry bar. Small plastic zip-lock storage bags for specimens, collecting containers such as bucket or clothe bags.

Safety Note: While at the collecting sites, all safety rules must be followed. All children and junior members must be supervised by an adult member at all times. Please be advised that there is always a possibility for injury, also

be aware the possible of poisonous plants and snakes, ticks and chiggers at this site. Difficulty level is about 3 to 5 on a scale of 1 (easy) to 10 (hard). Please follow AFMS safety rules, code of ethics and collect courtesy guidelines.

President /Field Trip Leader:

W. C. McDaniel

Home: (901) 274-7706

E-mail: cfmcdaniel@worldnet.att.net

Field Trip Agenda for Saturday:

9:00 a. m.-3:00 p. m.: At the collecting site. These fossils are concentrated below an oyster bed and above an unconformity separating the Demopolis Formation from the underlying Coffee Sand. The 1.5 foot thick sand containing the fossils is informally called the Frankstown Sand and is placed as a transgressive marine unit at the base of the Demopolis Formation, a formation in the Campanian Stage of the Cretaceous Period.

12: 00 noon- 1:00 am: Lunch. We will break for lunch. Please bring a sack or picnic lunch and plenty of drinking water, Grator-Aid or soft drinks.

3:30 a. m.-5:00 p. m.: (Optional site for those members who are interested). The Robison farm on Birmingham Ridge Road, in Lee County near Tupelo, MS. To collect marine invertebrate fossils (corals, brachiopods, sponges, exogyras, oysters and sharks teeth etc.). Then we'll head for home from here.

MAGS Field Trip Coordinator:

David McIlwain

305 Caitlin Dr., Oakland, TN 38060-4259

(901) 465-7388 • Cell: (901) 266-1446

Office: (901) 867-4303

E-mail: davidmclwain@netscape.net

MAGS SPECIAL EVENT

MAGS PRESENTS THE 3RD ANNUAL

A MID-SUMMER NIGHT'S INDOOR PICNIC AND ROCK SWAP

Friday, August 13 • 7:30 p.m. • Our picnic and swap will be held in lieu of the regular membership meeting

For the picnic (potluck)	<ol style="list-style-type: none"> 1. MAGS will provide the table coverings, plates/cutlery 2. Board members will provide the drinks 3. Members bring a dish or two and/or dessert
For the swap	<ol style="list-style-type: none"> 1. If you plan on selling <ul style="list-style-type: none"> • Wear your selling attire and bring your own table • Must donate a nice specimen for a future club auction 2. If you just want to swap: <ul style="list-style-type: none"> • Wear your swapping attire and bring your goods 3. If you just want to buy: <ul style="list-style-type: none"> • Wear your spending attire and bring your money

Other events and activities • Games • Door prizes • Surprises

If you have minerals that you think might fluoresce, bring them and check them under the fluorescent light. Stop by the microscope and look at micromount fossils and minerals.

WEB REPORT

MIKE BALDWIN: Here's a brief look at our website (www.memphisgeology.org) from 01.21.2002 through 07.18.2004:

Visits*	108,940	Top pages in the past 30 days:	rocknews1002.pdf	312 hits
Hits**	465,331	Home Page	g_herkimer.html	283 hits
Visits in the past 30 days	7,434	Explorer0703.pdf	rocknews0704.pdf	272 hits
Hits in the past 30 days	33,135	rocknews0903.pdf	Average visits/day past month	232

* visit=every time someone comes to the site ** hit=every page viewed on the site



AUGUST BIRTHDAYS

Birthstone = Peridot

3 - Lydia Haff	7 - Steven Ethridge	16 - Lelitia Brister	21 - Leslie Garth	25 - Frances Walker
4 - Richard Butterick	11 - Paul Sides	16 - Gregory Hurley	22 - Idajeon Jordan	26 - Breezy Levitch
4 - Edwin Rice	12 - Ron Brister	16 - George Loud	22 - Jerome Wood	27 - Tim Long
4 - Roger Van Cleef	12 - Jeri Givens	17 - Anna Sisk	24 - Douglas Swink	30 - Norm Hall
4 - Donald Spencer	12 - Gerald May	17 - Andy Stevenson	25 - Sherri Baldwin	30 - Kimberly
5 - John Patton	12 - David Murray	19 - Ramon Gafford	25 - Robert Foster	Novarese
6 - Irma Idell	13 - Steven Walker	19 - Rachel Huber	25 - Lenora Murray	

BLUEBERRIES SEEN ON MARS

. . . continued from page one

(identified using the Mössbauer spectroscope on the rover) that probably formed in a wet environment. Their shapes (mainly spherules, sometimes interlocking), as well as their distribution within the rocks, strongly suggested that they were concretions to the scientists analyzing the images from Mars, but the hematite balls from Utah provide a recipe for them.

Marjorie Chan and her team from the University of Utah had wondered if there might be hematite concretions on Mars, given the red sediments present there, and the suggestions of water flow at some time in the past. They were familiar to hematite balls, concretions that range from a few millimeters to 20 centimeters across, and weather out from red sandstone in Zion and Capitol Reef national parks, Grand Staircase-Escalante National Monument, Snow Canyon State Park and the Moab area, in southern Utah. They are found within the Navajo Sandstone, and scattered around the surface once they have weathered out—where they are known as marbles. Their work is published in the 17 June 2004 edition of *Nature*.

Although the blueberries on Mars look like the Utah marbles, they are not identical: the Martian spherules seem to be mainly hematite, whereas those in Utah are predominantly sandstone cemented with hematite. The Utah marbles can be much bigger than anything yet seen on Mars. But similar processes, of significant groundwater flow through permeable rock, with chemical changes triggering the growth of layered spherules, seem likely to have happened in both places. An intriguing aspect of finding these blueberries on Mars, however, is that on Earth, concretions are often associated with microbes. Chan and her colleagues intend to look for traces of microbial activity in the Utah marbles, as a further step towards understanding the geological history of Mars.

Reference: *Blueberries Spied on Mars, Explained on Earth*; *Geology News*; The Geological Society of London; <http://www.geolsoc.org.uk>; 17 June 2004. Used for educational purposes under the provisions of the "Fair use Act of 1976".



SUNSHINE REPORT

SHERRI BALDWIN: Our condolences go out to WC and Cornelia McDaniel in the recent loss of WC's only sister, Janice.

Best wishes to Anna Sisk, Kathy Hemingway, and Breezy Levitz.

MAGS ROADCUT

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

. . . **aquarium safe rocks.** one method to test rocks is to drop a small amount of muric acid or distilled vinegar onto the rock, if it bubbles after a couple of seconds it is not safe. The bubbles indicate the material may dissolve into the water.

. . . **rocks reportedly safe for aquarium.** Quartz (Rock Crystal, Amethyst, Citrine, Rose Quartz, Smokey Quartz, Jasper, Agate, Chalcedony, Sand, Carnelian), Granite, Jade. Lava Rock, Onyx, Petrified Wood, Slate and most polished rocks

. . . **rocks reportedly unsafe for aquarium.** Coal, coral, dolomite, Pyrite/fools, gold, fossils, limestone, marble, sandstone, any rock with metallic veins, any rock treated with any acid and open to a variety opinions rocks that have undergone lapidary work such as polishing.

. . . **meteor shower in August.** Perseids shower on August 12 and 13 with a minimum of 50-60 meteors per hour. The main show is after midnight, on the morning of August 12. After midnight, the constellation Perseus becomes more prominent, and shower rates escalate. Observers have reported Perseid rates well in excess of 200 meteors per hour!

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 Western South Carolina Gem and Mineral Society (Host) • 9:00am [EST] Saturday, August 14, 2004
Beryl Crystals • Ray Mine/Little Ray Mine, Burnsville, NC

We will meet at the Burger King in front of the Bi-Lo grocery store in Burnsville, NC at 9:00 AM.

Directions: Take Route 19 out of Asheville, NC and continue on 19E to Burnsville, NC. From the Spruce Pine direction, take 19 to the crest to Burnsville. The Burger King is right there on Route 19. From there we will take Route 197 south for 0.7 miles and take a left onto Bolens Creek Road. We will drive for 1.3 miles and take a left onto Ray Mine Road, and drive to the end of the road. Then, there is a 1/3 mile uphill walk on a steep path to the mine.

What to look for: Beryl crystals, black and rare, green tourmaline, garnet, amazonite, thulite, fluorescent apatite, and mica. **The Ray Mine** is reported to be one of the most accessible sites, where you have a chance to find gem quality aquamarine. **The Little Ray Mine** is known for golden beryl.

Tools and Equipment: Sledgehammers, rock hammers, shovels, picks, screens and buckets. We will be searching and digging and busting rocks in the extensive dumps left from the mica mining. There is a good stream at the

bottom of the dump to screen your diggings. Very little good material is found lying on the surface. Bring snacks and plenty to drink.

Cost: There will be a \$2.00 charge per vehicle payable to Mr. Bennett for the privilege of parking in his yard at the end of Ray Mine Road. Car pooling would save some money and prevent parking congestion.

Contact Information: Contact Bill Wetzel with any questions at (864)306-6749 or wwetzel@earthlink.net

Accommodations in Burnsville: (1) Blue Ridge Motel, 204 W. Blvd. (828) 682-9100; (2) Carolina Country Inn, W. Main St. (828) 682-6033; (3) Mountain View Motel, Hwy. 805 (828) 682-2115; (4) Toe River Campground, Blue Rock Road. More accommodations can be found in the Asheville and Spruce Pine areas.

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!

SFMS & OTHER CLUB SHOWS AND EVENTS

AUG 6-8; DALTON, GEORGIA: 13th Annual Treasures Of The Earth Gem & Jewelry Show; Northwest Georgia Trade & Convention Center, 2211 Dug Gap Battle Rd.; (I-75 exit 333); Fri. 2-7, Sat. 10-6, Sun. 11-5; contact Van Wimmer, 5273 Bradshaw Rd., Salem, VA 24153, (540) 384-6047; e-mail: van@toteshows.com; www.toteshows.com.

AUG 14-15; NIXA, MISSOURI: 24th Annual Show; Ozark Mountain Gem & Mineral Society; Maples Farm; Sat. 9-5, Sun. 9-4; contact Eddie Maples, (417) 725-3001 or (417) 882-9296.

AUG 20-22; ST. LOUIS, MISSOURI: 12th Annual Show and Sale; Greater St. Louis Assoc. of Earth Science Clubs; Greensfelder Recreation Complex-Queeny Park, 550 Weidman Rd.; Fri. 10-8, Sat. 10-6, Sun. 11-5; contact Robert Morse, 135 Knox St., Troy, MO 63379-1343; e-mail: rrcode@nothnbut.net.

AUG 21-22; BOSSIER CITY, LOUISIANA: 30th Annual Show; ARK-LA-TEX Gem & Mineral Soc.; Bossier City Civic Ctr., 620 Benton Rd.; Sat. 10-6, Sun. 10-5; contact Bill Hart, 1610 Success St., Bossier City, LA 71112, (318) 746-8735.

MAGS REVIEW

JUNE 6, 2004 BOARD MEETING NOTES

RAYNEE RANDOLPH: The MAGS board of directors met June 6, 2004 at The Blue Plate Café, 5469 Poplar Avenue. The following were present: Mike Baldwin, Idajean Jordan, Cornelia and W.C. McDaniel, Park Noyes, Raynee Randolph, Dennis Sanders, Bill Scheffer, Paul Sides and Roger Van Cleef. The following reports were given: (1) Treasurer. (2) 1st VP: The May field trip to Black Rock mine was cancelled due to 4 feet of water in the mine. Trip will be rescheduled. The June trip will be to Mt. Ida. Lou White will bring us a program of Memphis artifacts Pre-1862. A program list for July, August, October, and November is needed from the board. September will coincide with the Coon Creek trip. (3) Editor/Web: Deadlines need adherence. (4) Juniors: The Juniors will have cave experiments this month. (5) Membership/Sunshine: Rock Starz for this month will be Carl and Melinda Warren. "Thank you" from Doric Surrington. "Condolences" to Anna Sisk and the Rice family. "Cheers" to Carolyn Hays and David McIlwain. (6) Show: Show tickets need to be paid, see WC. June 7th will be evaluation meeting with the '04 show committee, 7pm at WC's. (7) Old Business: Tour of Charlie McPherson's will be June 12 from 9-12. (8) New Business: {a} August will be our annual indoor picnic/rock swap. Bring ideas for things to do. We will finalize plans at the July board meeting. {b} If any members have good pictures of specimens, please see Mike Baldwin. {c} By-law revisions are in the works. If you have any changes or suggestions, please see Raynee Randolph. Adjourned at 7:53pm.

June 11, 2004 GENERAL MEETING NOTES

RAYNEE RANDOLPH: MAGS June General Membership meeting was held at Shady Grove Presbyterian Church on June 11, 2004, presided by President WC McDaniel. There were 53 members and 13 visitors present. Visitors were: David Manson, Pam Gurley, Alan Adams, Joi Adams Bennett, Jane Lankford, Linda Wilson, Madison Horowitz, Casey Wright, and the Schaeffer family--Debbie, Alan, Lauren and Danielle. (1) Field trips: July 17--pink dolomite from the Black Rock mine in Arkansas. August 21--Frankstown, MS and Birmingham Ridge. September 18 we will be hosting the DMC trip to Coon Creek. This will be "fee" trip and Dr. Gibson will be with us to identify our stuff. October 23--Richardson Landing trip. November 20--Vulcan Quarry in Parsons, TN. (2) Reminders/upcoming events: tour of Charlie's house tomorrow. Thursday night, micromounters at Roger's. Show ticket money is due--see Dick McKitrick to pay. The show date for 2005 will be April 23-24. All winners of our displays get a Christmas present. Those presents are on display tonight. Bring your displays and get one of these. If you are a winner of a display you also receive a certificate. We have ten specimens that will be auctioned during the live auction tonight. Silent auction tonight. Bill Scheffer has oxalic acid. Our newsletter has won several awards--on display tonight. August will be our annual indoor rock swap. (3) Juniors: July--wire wrapping shark's teeth. (4) Program: Roger Van Cleef showing the beauty and convenience of micromounting. July 9--Lou White with "Pre-1862 Memphis Artifacts" (5) Displays: Adult: Mike Baldwin--Fluorescent minerals; David Manson--Maine/NH geology; Mike Cannito--plant fossils; Juniors--Megan Givens. Winners--Mike Baldwin and Megan Givens. There were three door prizes awarded and we dismissed @ 8:55 for refreshments.

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

BUGS 'N VARMINTS

MEL ALBRIGHT, AFMS NEWSLETTER, 10.96: Whenever we go rock hunting, we should remember that we're going into someone else's world. Whose? Well, we really don't know. It might be some snake, some bug, some plant, or even something big—like a bear. So, how do we prepare to be friendly, or at least not to make something mad?

Often the best thing to do is simply not to go there. If there's poison oak, ivy, or poison sumac around, go somewhere else. By the way, can you recognize all or any of these that thrive in your neck of the woods? If not, best get someone to show you. Believe me, it's better than finding out the hard way.

What about snakes? First, remember most are not poisonous. Second, remember that some are. Third, find out their differences. In the United States, there are only a few which are poisonous: rattlesnakes, cottonmouths, coral snakes, and copperheads. Believe it, or not, the snake would rather not bite you. If they don't feel threatened, they'll leave you alone. So, when in snake country, there are a few rules: [1] do not walk fast; [2] look before putting your foot down; [3] don't jump or step over things like rocks and logs; [4] don't reach into dark places before you look to make sure no one's there; [5] don't put your stuff on the ground where it might provide cover for a snake; [6] and remember, a rattlesnake does not always rattle first!

Then there are those bugs and spiders who can be unfriendly: scorpions, black widows, fiddle backs, and

the like. Again, a few simple rules will cover you: [1] don't reach into a place before looking; [2] don't put one hand down to support yourself while doing something else without checking where it's going; [3] when you reach under something you are reaching into the bug's domain; turn the object over instead; [4] shake out your shoes, clothing, bed rolls, or whatever before putting yourself into them; [5] never say that some place is too light for a bug. You'd be amazed at what a small crack a scorpion or spider can sneak into.

There are the nuisance bugs: ticks, chiggers, no-see-ums, gnats, skeeters, and the like. Here, the best way is to be prepared: [1] use bug repellent before venturing out; [2] dust your ankles with flowers of sulfur; [3] don't wear floral or sweet scents; [4] wear shirts with sleeves and long pants; [5] bees, wasps, hornets, and bumblebees are usually highly visible. Watch for them! Remember, that hole in the ground might be the entrance to a bumblebee nest; [6] also, remember that many soft drinks are attractive to them and they can and do land on your pop can—even while you're holding it.

Finally, consider the bigger stuff: bears, skunks, and their neighbors. Be noisy, talk, rattle, and look ahead and they'll be no problem. One exception—if you see ANY wild animal that doesn't seem to be afraid or even approaches you, try your very best to avoid it. IT MAY BE RABID! If you see a nocturnal animal wandering around in the daylight, there's a chance it's rabid.

NEW MEMBERS AND ADDRESS CHANGES

Welcome our new members to MAGS. Please add these names and addresses to your 2004 directory.

- [1] BENNETT, Joi and Alan Adams II; 863 South Yates Road #2, Memphis, TN 38120, 901-682-5351
- [2] GURLEY, Pamela; 460 Swan Ridge Circle, Memphis, TN 38122, 901-324-7235
- [3] MANSON, David and Mary and Derek Fletcher; 2546 South West Frontage Road, Como, MS 38619, 1-662-487-0207, manco1@watervalley.net
- [4] MOTTER, Tracy (Associate); 1528 West Capitol Avenue, Springfield, IL 62704, 1-217-971-9696, tracy_motter@yahoo.com
- [5] SCHAEFFER, Alan, Debbie, Karen, Lauren and Danielle; 6854 Corsica Drive, Memphis, TN 38120, 901-753-8196, laserme@aol.com

NEW ADDRESS

- [1] HOROWITZ, Herbert and Natalie; 7103 Larkfield Road, Olive Branch, MS 38654, 1-662-890-0568

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

2004 PROGRAMS

IDAJEAN JORDAN: Kids, mark your calendars. Here are the programs we have planned for you for the remainder of 2004.

AUGUST 13: Bring items for a Rock Swap. We will have an area set up just for you, so while the regular MAGS Rock Swap is going on that evening, you can have your own.

SEPTEMBER 10: Librarian Nancy Folden will bring her large collection of shells to show you. If you have special shells or other beach treasures you have found, bring them to show.

OCTOBER 8: We will be conducting several mineral experiments. If you have minerals that you're not sure how to identify, bring them with you.

NOVEMBER 12: *Dinomania*

DECEMBER 10: Christmas Party

STRANGE MINERAL TALES: MINING WAX

A long time ago if you wanted a candle, you went to a beekeeper. His wax and your wick made a candle. In modern times, candles are mass produced from paraffin which is a commercially refined product of petroleum. What is not widely known is that wax can also be mined! There are a very few places where wax has been mined on a commercial basis because of the quantities available. A location in Austria is the only place where wax was being mined in this century. A discovery of the same material was made at Soldier Summit, Utah.

The wax is related to petroleum, and it is called *ozokerite*. It is apparently a high quality form of natural paraffin, developed from the residue of crude oil percolating through fissures in rocks. Compared to beeswax and man-made paraffin, its melting point is much greater [between 155 and 190 degrees].

Ozokerite was sometimes found in large veins that were almost 100% pure. The majority, however, is found in a brecciated form bound up with sandstone and shale. Once mined, it must be crushed, then dumped into tanks of boiling water where the pure wax is skimmed and poured into molds. The "wax belt" of ozokerite covers an area of about 12 miles in Utah. Large tailing piles from the mining operation of the American Ozokerite Company are strewn alongside US Highway 50 near Soldier Summit.

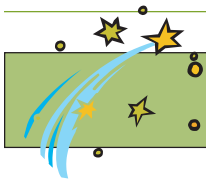
From Ozark Earth Science News via Gem-n-i, July 2002.

OBSIDIAN TELLS TIME

Time [in age] can be measured with Obsidian. It is emerging as a promising tool for dating and tracing prehistoric culture. What makes it useful for dating is that it continuously absorbs moisture from the air. The moisture penetrates the stone at a constant rate and leaves a tell-tale mark on the obsidian which is visible under a microscope. By examining the water marks, the age of a piece of obsidian can be calculated with extreme accuracy. This is valuable because the measurements can be extended half a million years into the past, well beyond the 40,000 year limit of carbon dating.

A most important use of obsidian is in dating glacial period in the United States. Stones that were carried along by advancing ice have confirmed that a major ice age began 180,000 years ago, and their final retreat came around 12,000 years ago.

From Ozark Earth Science News via The Palomar Gem, July 2002.



ROCK STARZ SHINE

CORNELIA McDANIEL: In order to acknowledge contributions on the part of MAGS members, each month we recognize the efforts of those making an outstanding contribution to the ongoing success of our club. This month we recognize Kathy Hemingway. Kathy has made a very generous contribution of festive partyware which

has been well used at various club picnics, swaps and monthly hospitality events. Kathy regularly contributes her assistance with monthly hospitality serving and cleanup and has provided assistance with pre-meeting furniture arrangement. Thank you Kathy, your efforts do not go unnoticed.

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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

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

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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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MARK YOUR CALENDAR

Board Meeting
August 5

General Meeting
August 13

DMC Field Trip
August 14

M³ Meeting
August 19

MAGS Field Trip
August 21

