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Pyrite and marcasite



This is a pyrite specimen from our first visit to Turkey Creek

them out with a prybar, drop them in our bucket and slosh on down the creek. What a great way to spend a warm, summer morning. That trip is also the first time my family and I had the privilege of meeting W.C. and Cornelia McDaniel.

I thought it might be informative and helpful if I told you a little bit about pyrite and marcasite. Pyrite is also known as "fool's gold". Native gold is a rich, bright yellow and resistant to tarnish and can easily be distinguished from pyrite by its golden-yellow streak. Pyrite leaves a greenish black streak.

Pyrite is an iron disulfide containing substantial amounts of nickel and cobalt [FeS₂]. It is yellow to brass-yellow mineral which is often tarnished with a brownish film of iron oxide. Pyrite is sometimes iridescent, so check your specimens of pyrite under a UV light. On the Mohs hardness scale [with 1 being talc and 10 being diamond] pyrite measures 6 to 6.5.

MIKE BALDWIN, MAGS MEMBER:

The August 22nd MAGS field trip for will be to Turkey Creek near Starkville, MS to collect fossils, pyrite and marcasite. Mark your calendars for this trip. The first time my family and I visited Turkey Creek, the entire creek-walking adventure was brand new to use. I remember wading the creek with a prybar in one hand and a bucket in the other. We could feel the marcasite and pyrite nodules beneath our watershoes, so we would pluck

[see pyrite and marcasite on page five]

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President's Corner WC McDANIEL

• First Vice President for Field Trips position has been filled. Mike Wheeler has accepted the position. Welcome aboard and the club members look forward to our summer and fall field trip excursions.

- Show Chair position remains unfilled???
- The Rockzone was very successful at the show and as a result our supply of gem dig material is seriously depleted. Get ready for consistent pleas for contributions. We will start with the August meeting. If you plan on selling we strongly suggest you make good contributions of materials to the gem dig. In addition Jim Butcko will be available to collect your material in the parking lot.
- The August membership meeting combines the best of rocks and food in the comfort of an air-conditioned room. The term "Rock Swap" brings up some questions with one of the most frequent being: "Do I need rocks and/or fossils to swap in order to attend or participate." No. At the MAGS rock swaps we have sellers, buyers, swappers and lookers. Your choice(s). Come participate and bring food and some more food.
- Field Trips - Based on our current insurance nonmembers will not be permitted to join and participate in MAGS field. Essentially visitors are a third-party which may make MAGS liable for any injuries and damages they receive on a field trip.

WC McDaniel

Comments or Questions Regarding MAGS

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Or visit MAGS at www.memphisgeology.org

MAGS PRESENTS THE 8TH ANNUAL

“A Mid-Summer Night’s Indoor Picnic & Rock Swap”

Special Events/Activities, Rock Swap And Indoor Picnic

Membership Meeting • Friday, August 14 7:30 pm

FOOD AND DRINK

MAGS will supply tables, coverings, cutlery. MAGS members and guests bring the food to eat and share. Bring your own drinks and some to share. Cans (cold) recommended.

FOR EVERYONE – HELP NEEDED BEFORE, DURING AND AFTER THE MEETING

SPECIAL EVENTS AND ACTIVITIES

Table(s) supplied by MAGS.

Microscope - brings your own and check it out under the microscope. Very small specimens are best for viewing under the scope.

Portable light box with UV light. Bring your specimen(s) to see if they fluoresce.

Check out the MAGS web site.

Check out your geological knowledge with a quiz.

Kids- show off your rock and fossil artistic side-special awards.

SELLING AND BUYING

Each member must supply own table.

Limited selling space so a four foot table is recommended.

Each seller is requested to make a \$5.00 donation to the club.

SWAP AND MAGS AREA

Table(s) supplied by MAGS.

Swapping only, no selling permitted.

Swap and Spin- bring a specimen, place it on the spinning wheel, spin and get another specimen to take home.

Register and win a free spin on the “Rocks Around the Clock.”

Silent auction and/or buy it now. Some pieces may be from the Frank Theibold collection. All proceeds to club.

Register and win the “Grand Door Prize.”

MAGS T-shirts.

August DMC Field Trip

The Southeast Federation of Mineralogical Societies, Inc
DMC Program of the SFMS Field Trip Committee
An Official Field Trip of The Southern Appalachian Mineral Society (host)

9:00 am, Saturday, August 8, 2009
Thermal City Gold Mine
Union Mills, North Carolina

The Southern Appalachian Mineral Society would like to extend an invitation to fellow DMC clubs to join us in panning for gold at a genuine placer mining site in Rutherford County, NC. Thermal City Gold Mine consists of a one mile section of the Second Broad River and about 80 acres of Placer Gravel Deposits, having one of the seven veins from the mountain supplying it. Panning material is brought from the river by backhoe for you to pan. The gravel is not "enhanced or enriched". The gold found here is in it's natural state- right where nature deposited it. Gold is found as flakes and maybe small nuggets. Ample shade, parking, and instruction in panning are always available when needed.

FEE AREA: Fee \$5 to pan all day, \$40 for front-end load

Children: Welcome with Adult Supervision

Pets: Pets allowed on leash

COLLECTING: Gold

BRING: Shovels and pans are furnished or you can bring your own. Other equipment is for rent/purchase.

For additional information on the site, including details about a 'front-end load' or overnight stay, contact the mine at: phone: 828-286-3016, Website: <http://www.thermalcitygoldmine.com/>

HISTORY: This is an unsalted site and many people have had success finding gold here. The mine's aim is to provide an authentic experience. This mine is located on the actual site of the earliest placers of Rutherford County. It opened in 1830 and has produced gold ever since then.

SPECIAL CONDITIONS: Camping facilities with full hook-ups to primitive are available on a first come basis. Call 828-286-3016 for rates. No drugs, alcohol, or firearms are allowed. The grounds are almost level and a short distance from panning to camping and restrooms.

DIRECTIONS AND WHERE TO MEET: We will meet at the site. From Asheville take I-40 east to exit #85 (Marion/Rutherfordton); proceed south on US-221 for about 8 1/2 miles to the Rutherford County line; the entrance to the mine is on the left (look for signs along the way). Travel time should be about one hour from Asheville.

CONTACT: Tim Barton at 828 885-8248

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.

Pyrite and marcasite *[from page one]*

When collecting pyrite here are a few good field tests: it is brass-yellow color [marcasite is paler in color]; pyrite usually lacks tarnish; and striking it with steel will produce sparks.

Pyrite is the most widespread and abundant of the sulfide minerals. Pyrite occurs in rocks of many types and in all types of hydrothermal veins. It is associated with quartz, microcline, and biotite in granite permatites and many other rock types. In addition to Turkey Creek, MS, pyrite is found in abundance in numerous places in North America, including: Bingham Canyon, Utah; Park City, Utah; Gilman, Leadville, and Rico, Colorado; Sparta, Illinois; and Chester County, Pennsylvania.

Pyrite has had commercial importance as a source of sulfur, used in the manufacture of sulfuric acid; iron can be produced as a by-product.

Marcasite is a disulfide of iron [FeS₂]. It is brass-yellow to almost white in color, but will tarnish deeper yellow to brown. The streak of marcasite is dark greenish to brownish. On the Mohs hardness scale, marcasite is also 6 to 6.5. The crystals of marcasite are orthorhombic. Twin crystals showing spear shapes are common.

When collecting marcasite, good field tests are: it is white on a fresh surface and it is harder than most other sulfide minerals.

Marcasite is whiter than pyrite and it lacks the cubic form of pyrite. Marcasite is not a rare mineral and is often found associated with pyrite and quartz. This mineral is of very little use, but it is mined along with galena and sphalerite at Joplin, Missouri. In addition to Turkey Creek and Joplin, Missouri, marcasite can be found in Oklahoma, Kansas and Guanajuato, Mexico.

Marcasite is believed to derive from an Arabic word once used for pyrite. The amateur will find that the marcasite in his collection is among the first to disintegrate, unless it is carefully protected, developing a white powder which no longer resembles the original mineral.

From experience, I can say that it does not take very long for marcasite crystals to become powder if left unprotected. Seal your marcasite specimens with a floorwax/water solution or other coating of your choice if you want to preserve the integrity of your find.

Sources:

[01] Rocks, Fossils and Dinosaurs; David Roots, Paul Willis, Michael K. Brett-Surman, editors; Fog City Press, San Francisco, CA; 2002; pg. 168

[02] National Audubon Society Field Guide to Rocks and Minerals; Charles W. Chesterman; National Audubon Society, New York, New York; 1995; pp. 374-377.

Geological Wonders you didn't know

[01] **The Wave (between Arizona and Utah - USA)**

A red-rock stunner on the border of Arizona and Utah, The Wave is made of 190-million-year-old sand dunes that have turned to rock. This little-known formation is accessible only on foot via a three-mile hike and highly regulated.

[02] **Antelope Canyon (Arizona - USA)**

The most visited and photographed slot canyon in the American Southwest, the Antelope Canyon is located on Navajo land near Page, Arizona. It includes two separate, photogenic slot canyon sections, referred to individually as Upper Antelope Canyon --or "The Crack"-- and Lower Antelope Canyon --or "The Corkscrew." The Navajo name for Upper Antelope Canyon is Tse' bighanilini, which means "the place where water runs through rocks." Lower Antelope Canyon is Hasdestwazi, or "spiral rock arches." Both are located within the LeChee Chapter of the Navajo Nation.

[03] **Great Blue Hole (Belize)**

Part of the Lighthouse Reef System, The Great Blue Hole lies approximately 60 miles off the mainland out of Belize City. A large, almost perfectly circular hole approximately one quarter of a mile (0.4 km) across, it's one

[see Geological Wonders on 7]

June 2009

Board Meeting Notes

W. C. McDaniel for Carol and Matthew Lybanon:

The MAGS Board of Directors met June 4 at the St. Clare Room in St. Francis Hospital, 5959 Park Avenue. The meeting was called to order at 6:30 P. M. Those present were: W. C. McDaniel, Mike Baldwin, David Day, Kimberly Loveland, Paul Sides, and Nannette McDougal-Dykes. Philip Loveland also attended. A quorum was present.

Secretary: No report.

Treasurer: The Treasurer's Report was presented and approved subject to audit. A 4-month delay in filing IRS forms has been granted.

Membership: No report.

Field Trips: A continuing need for a First Vice President-Field Trips was reemphasized. The June 13 field trip will be to Black Rock Quarry. On June 20 we will go to Crowley's Ridge. July's field trip will be to Turkey Creek in Mississippi (date to be announced). Kimberly Loveland brought up the possibility of renting van(s) to transport Members to field trips. The consensus was that while it is a good idea, concerns about liability and other legal issues would make it infeasible. Instead, more emphasis will be placed on carpooling.

Adult Programs: Here is the schedule for the rest of the year: June-Ashley Allen and Show report; July-David Dockery (no topic); August-indoor rock swap and picnic; September-Bill Pryor, Arkansas Fossils; October-Membership Lapidary Projects; November-Dr. Mike Gibson (UT-Martin), topic to be determined; December-annual holiday party.

Junior Programs: In June Mike Baldwin will present a program on mining. The July program will be on fluorescence. In August the Juniors will join the adults for the indoor rock swap.

Show: Alan Parks has chosen not to return as Show Chair for 2010. W. C.

McDaniel will launch a search for a new chairperson. A process to elicit feedback from MAGS members is being developed.

Library: A discussion of past due books was deferred until a current list can be developed.

Newsletter: Mike Baldwin will do the newsletter the next three months.

Webmaster: No report.

Historian/Rock Swap: The July rock swap will be at the Schaeffers's house (date to be determined). In August we will have an indoor swap during the regular membership meeting. The September 12 swap will be at the Days's house, and the October 10 swap will be at the Parks's house.

Old Business: None.

New Business: The Board approved a grant request for \$500 from the Tennessee Earth Science Teachers (TEST), to be used for educational development for Earth Science Teachers. The money will come out of the Don Green Fund.

W. C. McDaniel announced he would not be at the July Board Meeting. The meeting was adjourned at 8:25 P. M.

June 2009

Membership Meeting Notes

Neville Mayfield and W.C. McDaniel for Carol and

Matthew Lybanon: The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on June 12. The meeting began somewhat late due to the absence of lights; thunderstorms had knocked out the electricity. The meeting was conducted with the help of flashlights and the little remaining daylight. Fortunately, it wasn't warm, so A/C wasn't missed too much. Many Members were absent due to the storms, but approximately 35-40 were present; a rousing turnout under the circumstances. Only 22 members and 6 guests signed the attendance list. Guests included the following: Howard, Morgan and Gabriel Bromley (applicants not yet approved by the

Board), Heather Baldick, Jeff and Cathy Dewalt.

Neville Mayfield announced that 17 new memberships had been approved since the last meeting, totaling approximately 30 people.

Ashley Allen from Oneonta, Alabama, presented a program comparing the Chinese education system to our own, based on his trip there. There were quite a few questions from the audience, and Dave Shiffman added some commentary from his earlier trip to China.

Paul Sides gave a program report update:

July 10th: David Dockery from Mississippi

August 14th: Rock-swap

September 11th: Bill Pryor of Arkansas

October 9th: TBA

November 13th: Mike Gibson, UT-Martin

December 11th: Christmas Party

The Black Rock Quarry trip has been rescheduled, again, to June 20th, which is also the date for the Crowley's Ridge, Arkansas, trip. The quarry trip requires hard hat and steel-toed shoes. Another trip is tentatively scheduled in July to Turkey Creek for marcasite.

Virgil Richards, a new member from Tulsa, introduced himself and talked about his activities in Oklahoma.

A volunteer event to Chucalissa may take place in August. Members were reminded about the importance of collecting material for the Rock Zone at the 2010 annual show. Our mineral display will be at New Albany until September 30th.

W. C. McDaniel announced that Alan Parks will not chair the 2010 annual show, so an enthusiastic volunteer is needed soon to get planning in motion to continue the momentum and success we achieved with the 2009 show.

The meeting was adjourned, and Members went home to check the damage and to see if they had lights.

August Birthdays

NEVILLE MAYFIELD: Birthstone for August is Peridot.



- 1 Chris Cozart
- 1 Ravi Tummalapalli
- 4 Don Spencer
- 6 Irma Idell
- 7 Charlie Thomas
- 9 Danny Falkner
- 9 Dr. Don Lum
- 11 Paul Sides
- 12 Ron Brister
- 12 Ginny Stanford
- 12 Chris Ferguson
- 12 David Murray
- 12 Cole Pleasant
- 14 Kasia Ferguson
- 15 Holly Stanford
- 16 Stella Blen
- 16 Lelitia Brister
- 16 George Loud
- 17 Phillip Loveland
- 17 Anna Sisk
- 19 Ramon Gafford
- 19 Rachel Huber
- 20 Kent Stratton
- 21 Zachary Faddis
- 22 Idajean Jordan
- 22 Jerome Wood
- 24 Kimberly Loveland
- 24 Floy Hawkins
- 25 Sherri Baldwin
- 25 Dylan Burns
- 25 Robert Foster
- 25 Lenora Murray
- 25 Frances Walker
- 27 Tim Long
- 27 Davie Fabian
- 28 Beth Day
- 29 Melissa Salmon
- 31 Gerald May
- 31 Frank Schwartz
- 31 John Keegane

Upcoming adult programs

- Aug 14 Indoor Rock Swap and Picnic
- Sept 11 Pliostocene of Northeast AR with Bill Pryor
- Oct 9 Lapidary Workshop [Polishing, beading, etc.]
- Nov 13 Tennessee geodes with Mike Gibson
- Dec 11 Holiday party

Upcoming youth programs

- Aug 14 Volcano making and Indoor Rock Swap and Picnic
- Sept 11 Molds and casts with Carol Lybanon
- Oct 9 Fluorescents with Alan Schaeffer and Mike Baldwin
- Nov 13 TBA
- Dec 11 Holiday party

Web Site Statistics for July 2009

MIKE BALDWIN: Here's a brief look at our web site [www.memphis-geology.org] 01.21.02 through 07.31.09:

Visits 377,191
Hits 1,619,582
Visits in July 4,183
Hits in July 31,738
Top pages in the past 30 days:
eris 1,283 hits
homepage 1,038
rocknews0509.pdf ... 469 hits
rocknews1005.pdf ... 448 hits
rocknews0107.pdf ... 379 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.

Geological Wonders

[from page 5]

of the most astounding dive sites to be found anywhere on earth. Inside this hole, the water is 480 feet (145 m) deep and it is the depth of water which gives the deep blue color that causes such structures throughout the world to be known as "blue holes."

Attention members and visitors

Important Field Trip

Information: Effective immediately, non-members will not be permitted to participate in any MAGS field trips. This includes all areas: public, private collecting, and pay sites. No exceptions.

Announcements

Upcoming events

WC McDANIEL:

Saturday, August 22 – Turkey Creek near Starkville, Ms. Creek collecting for marascite/pyrite and occasional Mosasaur bones
Check out mosasaur at <http://en.wikipedia.org/wiki/Mosasaur>

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, 3rd-07, 4th-03 • Special Publication 2nd-03 • Art 77, 80, 81, 82, 86 • Junior Article 1st-03, 07 • Adult Article 2nd- 89, 90, 04; 3rd-92; 4th-85, 04, 07; 5th-91, 03, 07; 6th-87; 8th-04, 07; Honorable Mention-03, 04, 07; Adult Poetry-07

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

AUGUST 2009

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					

August 6 6:30P MAGS Board Meeting - St. Clair Room, St. Frances Hospital

August 14 7:30P MAGS Membership Meeting - Shady Grove Presbyterian Church, 5535 Shady Grove Road • Bring refreshments •
 Adult Program: Indoor Rock Swap and Picnic
 Youth Program: "Volcano Making" and Indoor Rock Swap/Picnic

Aug 22 8:00A MAGS Field Trip - Turkey Creek, Starkville, MS



MAGS Rockhound News
 5116 Whiteway Drive
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