Mid-Georgia Gem Clips
Official Bulletin of the Mid-Georgia Gem and Mineral Society
www.midgagms.org **Vol. 17, Issue 4, May, 2017**

May Meeting At the Museum of Arts and Sciences on Monday, May 01, 2017 at 7:30pm.

The speaker for the May meeting will be Jay Batcha. Jay will be speaking on the Wyoming fish fossil collecting in the Green River Formation. Jay will cover the where to collect, the how to collect, and the prepping and protecting of your fossil finds once they are home.

President's Message

We had a great meeting this month. I enjoyed the presentation done by Bill Montante about the Ries Crater in Germany. We were well received at the 2nd Science Olympiad this year. We had a good turnout of people there to talk to the students and test the candidates on their knowledge of rocks and minerals.

During the 18th century, Josiah Wedgwood of England, would buy a white clay that was being brought in from America. This was before the white clays were discovered in Cornwall, England. Josiah found this clay from Georgia to be the purist and whitest he had ever encountered. Despite his demands for the clay called *Kaolinite,* was mined in small amounts. This was used for his finer China that was came to be known as *Creamware* and *Queensware* (*Queen's ware*). These were said to rival anything coming out of China as far as white China was concerned. The kaolin industry in Georgia remained small time until 1938 when the *Champion Paper and Fiber Company* decided to develop its land where kaolin was located. This was the start of the kaolin industry as we know it today.

Champion's new facility on the three-mile short line of the Sandersville Rail Road gave confidence to build their facilities too. Soon, Champion was joined by United Clay Mines (now operating as the Kentucky-Tennessee Clay Company), Burgess Washington Clay (now Thiele Kaolin). In 1947, the Burgess Pigment and Georgia Pigment (now Imerys Pigments and Additives & J.M. Huber) were built. The industry provides products that are used in the paper industry, cosmetics, rubber manufacturing, pharmacology, building industries and the chemical industry.

Today, kaolin is mined for the paper coating industry where it is used in the making of high quality papers. It is also used as a pigment additive for the porcelain-ceramics industry, pharmaceuticals and as a filler in numerous plastic and rubber compounds. The clay is also used in the porcelain industry in the making of bathroom toilets and sinks.

Georgia kaolin deposits occur in Late Cretaceous (about 100 million to 65 million years ago) to Early Paleogene (65 million to 45 million years ago) sedimentary rocks whose sediments were derived from weathered igneous and metamorphic rocks of the Georgia Piedmont geologic province. During these ancient times, sediments were transported by rivers to coastline deltas and to estuarine and back-barrier island locations. Relative sea-level changes provided environments of deposition favorable for the accumulation of the lens-shaped geometry of the present-day deposits. Since then further mineralogical changes have occurred to the sediments. The varied and complex geologic history that different kaolin deposits have experienced results in an array of formation properties. This area is known as the *fall line*. This

is a line from Augusta to Macon to Columbus, Georgia.

The kaolin is stripped mine from the surface after the over burden has been removed. Many times, it is removed from one site and transported to another site where it is stored until they have need of it. Once the site has been stripped of the Kaolinite, it is recovered using the most advanced means available. Once they have mined out the sources, the land is returned to its original condition, i fact, the land is better than it was with water ways and the wildlife and plants restored. They kaolin companies have teams of botanist, geologist, biologist that study the land and wildlife, they take samples of all the fauna there so they can return it afterwards. The industry has been recognized internationally for their efforts to return the land to its original condition, if not better.

Jim Souter, President
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Annual Picnic coming soon!

The club annual picnic will be on **May 06, 2017**. It will be starting at 11:00 am at the Ocmulgee Indian Mounds. It will be held at the picnic tables by the museum parking lot. There will be a silent auction during the picnic. We have had a lot of fun with the silent auction in the past years. You can get some really nice specimens for a good price.

The club will furnish the barbeque and paper products. Everyone should bring a covered dish, your drinks, and a couple of items (more if you want to) to put in the silent auction, it can be rock related or not. Oh, don't forget your money for the items you win at the silent auction. So everyone come and have a good time. See you there and may the high bidder win!

April Meeting Minutes

The meeting was called to order at 7:42 PM by Jim Souter with 13 members/guests present.

Old Business

The treasurers' report was read and approved. We signed up two new members. We are still requesting that members collect extra material on digs for grab bags. The Science Olympiad was successful with a larger group participating than last year. A special thanks goes out to Jay, Tina, Jim and Susan for helping out for the event.

New Business

This month's mineral was sodalite and several members brought in specimens to share. Cobb County is sponsoring a rock swap at their headquarters located at 516 W Atlantic Street in Marietta on Saturday April 15. There is an art/mineral fest scheduled on April 21 at Flint Rose studio in Thomaston on Church Street. Also Georgia Mineral Society is hosting their annual mother's day weekend show at the Cobb county civic center in Marietta on May 12-14.

Bill Montante was our speaker for this month. He talked on crater impact studies with focus on the Ries Crater in Nordlingen, Bavaria,

Germany. He provided a slide presentation that was an introduction to the city and the surrounding areas. The facts surrounding the Ries crater were staggering: it occurred 14.5 million years ago, at 20000 deg C, with a shockwave traveling 12-18 miles/second all happening in a total time of about 10 minutes. The talk included mention of other items that strike the earth from space such as: micrometeoroids, meteoroids, bolides, asteroids and meteorites. He also discussed other major events that have occurred in more recent times including but not limited to Barringer crater in Arizona and Chelyabinsk in Russia. He discussed some of the minerals that were created as a result of the impacts: Coesite, Stishovite, diamond and Suerite. Their presence helps in determining the causes of the different craters that were first identified by Gene Shoemaker and E Chao. The talk was quite informative and provided some insights into the causes of existing craters . A question and answer session was provided at the end of his talk. The meeting was adjourned at 8:59 PM.

By: Richard Arnold

Apache Tears - Arizona

Mineral of the Month Obsidian

Classification: A mineraloid because it is an amorphous glass and not a crystal.

It is produced when felsic lava, or rocks relatively rich in elements that form feldspar and quartz, is extruded from a volcano and rapidly cools with minimal crystalline growth. It is commonly found within the margins of ryholitic lave flows known as obsidian flows where the chemical composition induces a high viscosity and polymerization degree of the lava. Polymerization is where the molecules line up in an orderly and systematic fashion there they are in connected the same in three dimensions. The inability for atomic diffusion, or the ability of atoms to jump from one molecule to another, through this highly viscous and polymerized lava explains the lack of crystal growth. Due to the hardness and brittleness of the mineraloid, it was adapted early in history as cutting and piercing tools. Some surgical companies are utilizing obsidian scalpel blades since they are sharper than any metal blade.

Formula: 70–75% SiO2 in water plus MgO, Fe_3O_4

Rainbow Obsidian - Mexico

Varieties: Apache Tears- Small rounded pebbles of black obsidian.

- Mahogany Obsidian- variety with black and red banding.
- Rainbow Obsidian- Multi-color iridescence.
- Sheen Obsidian- Variety exhibiting a gold sheen effect.
- Snowflake Obsidian- Variety containing white “snowflake” crystal patterns of the mineral *cristobalite*.
- Fire Obsidian- Variety that has a thin layer of *magnetite* that diffracts the light as it passes through it. The layer of magnetite is

about the thickness of a wavelength of light.
Color: Black, gray, dark green, red
Streak: White
Hardness: 5-5.5
Luster: Vitreous
Cleavage: conchoidal

Mahogany Obsidian - New Mexico

Obsidian only forms around volcanoes that are ryholitic in nature. The ancient volcanic hills called Glass Buttes in Oregon hold a large variety of gem-quality obsidian, including: mahogany, red, flame, midnight lace, jet black, pumpkin, brown, rainbow, gold sheen, silver sheen, green, lizard skin, snowflake etc. Obsidian is metastable at the earth's surface which means that over time the glass becomes fine-grained mineral crystals. The process can be sped up in the presence of water. This also means that Obsidian is only found in relatively modern areas, and in none older than the Cretaceous age (from 135 million to 63 million years ago). Although excellent quality obsidian specimens can sometimes be produced by surface lava flows, the best quality of Obsidian forms around volcanic vents just below the ground. As the lava squeezes in between rocks it forms layers of Obsidian that are relatively clear of impurities.
An important property of very viscous lava is that it does not mix well, which means that no obsidian from two different sources is identical. More so, each sample of obsidian can be traced to a specific volcanic eruption.

Snowflake Obsidian - Utah

Field trips coming up, time to do some digging!!!

An Official Field Trip of the Mid-Tennessee Gem & Mineral Society, Inc. (Murfreesboro, TN) (HOST)
An Official Field Trip of the Mid-Ga Gem and Mineral Society

Saturday, May 6, 2017
10:00AM until 3:00PM CDT
Cumberland Furnace, TN

COLLECTING: We are heading to Cumberland Furnace to collect slag. The slag was a byproduct of making iron. Some of the slag is quit colorful in shades of blue and green … some with swirls. The slag is easily cut and polished and makes nice pendants – it is too soft for rings.

Our target is a dump pile on the banks of the stream that runs through Cumberland Furnace (access by crossing a large field owned by the community). This dump pile is located about a ¼ of a mile from the parking area. Although the dump pile has the greatest potential, slag can be found anywhere along the banks (both upstream and downstream). Another way to search is by wading downstream from the furnace if the creek is low. I am not sure if conditions will permit - bring wading shoes just in case if you wish to collect in the stream.

BRING: You need to bring a hand tool, trowel, small shovel, etc. to dig in the slag pile and gloves to protect your hands. Bring a back pack or small buckets for carrying. Boots or wading shoes are recommended as your feet may get wet otherwise.

CHILDREN: Everyone is welcome but children must be 6 years or older. They will not be allowed to roam around unattended and must obey all safety requirements and have all safety equipment.

PETS: All pets must be under control at all times.

SEVERAL LODGING SUGGESTIONS:
Depending on which direction you are coming from, I would recommend staying in the Nashville area, Clarksville (north of the furnace) or Dickson (south of the furnace).

DIRECTIONS AND WHERE TO MEET:

From Nashville, TN off of I-40 take exit 196 for US-70 S (Bellevue/Newsom Station) go 0.2 miles.

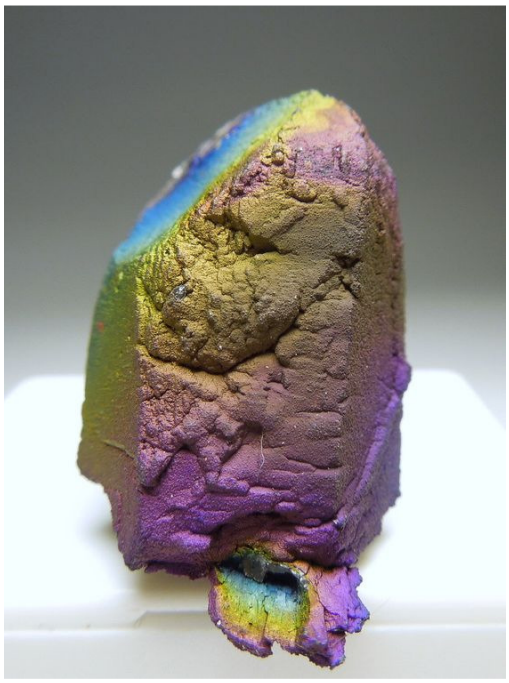
Turn right at TN-1 W/US-70S W go 1.8 miles.
Turn left at TN-1 W/US-70 W/Charlotte Pike go 16.1 miles.
Turn right at TN-47 (White Bluff) go 9.6 miles.
Turn right at TN-48 (Charlotte) go 6.8 miles.
Take a slight left at Earl Leech Rd go 0.2 miles.
Turn left on Cinder Road. You will see a log cabin (Starks Cabin) on the left hand side of the road. You can park in the field next to the cabin.

ASSEMBLY TIME: 10:00 AM at Cinder Road, Cumberland Furnace, TN

Meet near the old log cabin on Cinder Road.

CONTACT:
For further information or alternative directions contact: John Martin, MTGMS President at info@mtgms.org call my cell phone 615-210-5385 Visit our website www.mtgms.org and visit us on Facebook.

A Cabochon made from the Slag



Iridescent Goethite on Quartz from Graves Mountain, Lincoln County, Georgia

Graves Mountain Rock Swap and Dig April 2017

8 am to 6 pm, Friday, April 28, 2017
8 am to 6 pm, Saturday, April 29, 2017
8 am to 6 pm, Sunday, April 30, 2017

"You are invited to field collect minerals at Georgia's premiere mineral location!"

The caretaker in charge of Graves Mountain, Clarence Norman Jr., has announced plans to hold a three day dig and rock swap on the Mountain during April and October. He will have the mountain open to collecting from 8 am to 6 pm each day. All participants must stop at the welcome table in the Hospitality tent to sign a liability release and make a small contribution to defray the cost of opening the mountain and providing port-o-lets. There will be several golf cart type, four wheeled vehicles available to transport those participants who have trouble walking long distances. The dig will cease and everyone is expected to be off the mountain by around 6 pm each day. Participants will be allowed to park in a designated area on the mountain.

Rock Swap and Hot Food/Drinks:
Junior will set aside an area in the upper parking lot for tables to be setup for daily rock swaps. Anyone who would like to setup a table(s), please contact Junior at the phone numbers listed below. Hot food cooked on the grill, cold drinks and chips will be available for purchase on the mountain during all three days of these events.

Contact Information:
Clarence Norman Jr. (Junior) - 706-359-1544 (his business) or 706-401-3173 (his cell)
THESE DIGS ARE OPEN TO ALL
NO NEED TO SIGN-UP, JUST SHOW UP FOR ALL "ROCK SWAP AND DIGS"!
Mark your calendar and tell all your friends about these two great events!

DIRECTIONS: From Atlanta's I-285, take I-20 east to the exit for Washington, GA SR 78 (SR 10, SR 17) and turn left.

Travel north to Washington, turn right onto SR 378 and drive 11 miles to the Graves Mountain area. The entrance to Graves Mountain is on your right about 8/10 mile past the Lincoln county line sign.
-OR-
Just after you exit onto SR 78, turn right onto GA 43 and drive towards Lincolnton about 13 miles. Take a left onto GA 220 going Northwest for about 3 miles to SR 378. Take a left on SR 378 and go about 2 miles. The entrance will be on your left.

The entrance is a paved road that goes through a gate and up a hill. Please park along the access road and then proceed to the "Welcome Tent" at the end of the pavement to obtain a liability release form and to make a donation for the portable bathrooms, etc.
Graves mountain is accessible and open for mineral collecting by colleges, universities, and gem and mineral societies. Groups as small as two INDIVIDUAL mineral collectors can now reserve the mountain!

DIRECTIONS: From Macon, Ga. Starting at I-75 and I-16, take I-16 east to Spring St. exit (less than 1 mile). Turn left on to Spring St. (Highway 129) towards Gray Ga., Stay on 129 until you get to Eatonton Ga. (around 40 miles). Once you get to the square turn right onto highway 16, turn left on to highway 44 (around 1 mile). Stay on highway 44 until you get to Washington Ga. (around 54 miles) turn right onto highway 78 business and go through town (highway 47 will merge in with 78 from the right, Don't turn here)(around 2 miles). Take highways 47 / 378 towards Lincolnton Ga. (about 12 miles). The entrance to Graves Mountain is on your right about 8/10 mile past the Lincoln county line sign.

Lazulite on Quartzite, Graves Mountain

A Mid-Ga Gem and Mineral Society Field Trip

Fossil collecting on an Island in the Savannah River.

Saturday June 3rd 2017

8:30am to 3:00pm
Savannah, Georgia

Collecting: sharks teeth, turtle shell, misc. bone, possible horse teeth, and teeth of other animals and more. Will be digging in dredged dirt/sand from the Savannah River.

Cost: $30.00 a person plus a tip for boat hands (If we have 6 people). Boat can only take 6 people! The first 6 to call and RSVP will get a place on the boat. Once the first 6

people RSVP, I will start a waiting list in case someone backs out.

Also, would like to see if we can setup a ride share to Savannah in 2 or 3 cars maximum. Will meet at the Marina at 8:15am

BRING: You need to bring a hand tool, trowel, and small shovel. Bring a back pack or small buckets for carrying, something to wrap your finds in. Boots or wading shoes are recommended as your feet will get wet. Also nothing on the island so bring everything you need like sunscreen (no shade), bug spray, water, food, and towels.

I will send out meeting place directions to the people going only.

Call Jay's cell to RSVP at 478-957-5002 or if you have any questions.

Check website
http://www.amfed.org/sfms/
for more shows coming up in the Southeast and other great information!

The Georgia Mineral Society's 49th Annual Mother's Day Weekend Gem, Mineral, Jewelry, and Fossil Show

May 12, 13, 14, 2017

Cobb Civic Center
548 South Marietta Pkwy SE
Marietta, GA 30060
Show Hours

Friday: 10 am - 6 pm

Saturday: 10 am - 6 pm

Sunday: Noon - 5 pm

EXCITING AUCTION
Saturday at 1 pm !!!
FREE Admission!
FREE Parking!
Over 30 Dealers!
Door Prizes!
www.gamineral.org

Tidbits

A Petrified Fact by Ed Wengerd

Many pieces of petrified wood, especially those from the northwest, have a center that looks like wood, but with a layer of chalcedony or pumice between the center and the outside. This indicates that the tree was green when it was buried in hot ash. The water in the green wood evaporated making the wood shrink. The outside was made into a cast by the heat, so the areas left between the cast and the wood were filled with chalcedony, making beautiful pieces of petrified wood.

From MOROKS Newsletter, to SCFMS by The Redstick Rockhound News, Feb 2013, via SCFMS Newsletter Nov-Dec 2013; via Fredericksburg Rockhounds news, Dec 2013.

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Macon, Georgia

The Club meets on the First Monday of each Month, at The Museum of Arts and Sciences, in Macon, Georgia. Except: No meeting January, July, and August. The annual Christmas Party is the first Monday in December. September the first Tuesday of the Month

Purpose: To promote the earth sciences, the lapidary arts, and the collection, study and display of rocks, minerals, and fossils; to promote the public awareness of these efforts in educational and recreational activities.

Club Officers:

President / Web Master: Jim Souter, ph. 478-454-7273, jgsouter@windstream.net

Vice President: Phillip Hargrove, 478-862-5327 Cell 478-550-8199 susanbphih@pstel.net

Secretary / Photographer, Richard Arnold, ph. 678-682-9860 rarnold216@charter.net

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Education Chairperson: Tuell Walters, ph. 478-922-7200 firecomet46@gmail.com

Club year begins November 1st, a grace period of three months will be given before membership lapses.

Mid-Georgia Gem & Mineral Society Application for Membership

Name(s)_____
_____
_____
_____
_____
Address_____
_____
City_____
State____ Zip Code_____
Phone_____
Adult(18+) $10.00 Junior $2.50 New _____
Renewal _____
E-mail Address_____
_____
List your interests and reasons for joining_____
_____
_____
_____

Make checks payable to:
Mid-Georgia Gem & Mineral Society
Mail to the Treasurer (listed on this page) or bring to a meeting.

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Macon, Georgia

Member of Southeast Federation of Mineralogical and Lapidary Societies
Member of American Federation of Mineralogical Societies

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