# Snoopy Gems

Volume 50 Number 9 September 2024
Mississippi Gulf Coast Gem &
Mineral Society Inc.

Email: mgcgms@bellsouth.net

MGCGMS Established in 1974

## President's Message

Dear Members,

Our forward look is to the fall events including Halloween, the Peter Anderson Festival, OSAA Art Show, our Gem Mineral and Jewelry Show, and closely followed by the Christmas holiday parties. Plus, there's all of our individual family and social events. WOW!

Please continue to elevate the Gem and Mineral Club to a priority in your planning. Bring your calendars to the Saturday meeting and we'll help with dates.

It's also time to think about our direction for 2025. What are your ideas for learning and promoting new lapidary skills? What time might you have for volunteering to help the club survive, improve, and become more effectively in our community? Consider joining a committee, being an officer, or helping teach a class. We need your support and enthusiasm. Call me with questions or comments or concerns. Be safe!

See you on Saturday!

Liz Platt

MGCGMS President

## September Workshops:

Our Wednesday classes from 11-4:00 in our room at the Mary C. All members are welcome!

**Saturday Workshop: Sept 14th @10am**
**Stephanie Hatcher** will be teaching beaded bracelet. Kits will be available for $10.

**Materials:**
**11-13 4x4mm cube beads**
Size 11/0 Japanese cylinder
(delica) beads (5gram color A, 1gram color B)
Clasp
6 lb Fireline or Wildfire thread
**Tools:**
beading needle #10, and scissors

**Wednesday workshop open to the public**
**9/17/24: Barbi Beatty** will be teaching hand tied pearls. class fee $35. Kits will start at $25 and up.

John Guglik will be available to test stones and metals.

Machines: Members of our tool committee will be available to help with cutting and cabbing gemstones. As always, we will have the club machines available for metal & gemstone testing, gemstone cutting, and cabbing. There is a $3 tool maintenance fee to use the machines.

# Meeting Minutes

**GULF COAST GEM & MINERAL SOCIETY**

August 2024

Meeting called to order: 2:40 pm by Liz Platt, President.

Meeting Minutes: Minutes as provided during the meeting, taken by Rosalind Norvel-Daniels. Pete made a motion to approve, second by Harvey Markum. Minutes approved.

Treasurer: Barbi Beatty, Treasurer provided account balances. Stephanie Hatcher made a motion to accept the treasurer's report, Harvey Markum made a second, motion carried.

Committee Reports

Sunshine: Our oldest member is 97 and in the hospital from a fall.

Membership: No report.

Library, Closet, Inventory: No report.

Equipment: No report.

Communication: No report.

Newsletter: No report.

Facebook: No report.

Show: Barbi is recontacting the vendors. So far, seven vendors have confirmed. Vendors have until September to finalize. Barbi and Connie will have a booth at Peter Anderson and will give out information about our show. Barbi has asked for members to volunteer to work the information table. A bag will be given at Peter Anderson with show and club information. There will be a coupon for the first 100 presented at the show on each of the two days will be given a prize. The prize has not been determined.

Scholarship: Nothing to report.

Workshops: Today's workshop included working with seed beads to make either a ring or a beaded bead. There was also a visit and presentation by Trailer McQuilkin. He gave a talk about his work in structural art and how he got started in this profession.

New Business: Stephanie Hatcher asked that those that would like to display some work in our case at the Mary C please contact her. The cabinet is secured and locked.

Old Business: None discussed

Gem of the Month: Peridot and Sardonyx are the gems of the month.

Motion to Adjourn: 3 pm motion made to adjourn by Barbi Beatty, second by Harvey Marcum, motion carried.

Door Prizes: Drawings held for door prizes.

Report By: Secretary Stephanie Hatcher

# Happy September Birthday

Bob Boyd, Bonnie Jenkins, Liz Platt, Mike Nall, Jewel Pugh, Sue Shelton, Nancy Smith

**The Mining, Processing, and Enhancement of Sapphire:**

Sapphires are among the most prized gemstones in the world, known for their brilliant blue hues and association with wealth, royalty, and spirituality. The journey of sapphire, from its natural formation deep within the Earth's crust to its polished state as a stunning gem used in jewelry, involves a series of complex and meticulous processes. This article delves into the mining, processing, and enhancement techniques used to extract, refine, and beautify sapphires.

**1. Formation of Sapphire**

Sapphires are part of the corundum family, a group of crystalline forms of aluminum oxide ($Al_2O_3$). Corundum is colorless in its pure state, but trace amounts of various elements produce colored variants. For instance, the blue color of sapphires comes from trace amounts of titanium and iron. Sapphires form under conditions of high pressure and temperature, typically in metamorphic or igneous rocks such as basalt and gneiss. These conditions occur deep within the Earth's crust, and over millions of years, tectonic activity and weathering bring these stones closer to the surface, where they can be mined.

**2. Mining of Sapphire**

Mining sapphires involves various techniques, depending on the geographical location and the type of deposit. There are two main types of sapphire deposits:

**a. Primary Deposits**

Primary deposits are those in which sapphires are found embedded in the host rock, usually within volcanic or metamorphic formations. Mining in primary deposits often involves heavy machinery and explosives to break through rock layers and access the gems. This type of mining is more labor-intensive and costly.

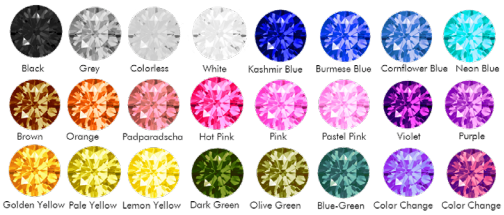
**Countries with primary sapphire deposits:**
Australia: Notably in New South Wales and Queensland, where sapphire-rich basalt formations are mined.
**Sri Lanka:** Known for its rich secondary and primary deposits.Madagascar: Hosts some of the world's largest and most productive sapphire mines.
b. Secondary (Alluvial) Deposits
In secondary or alluvial deposits, sapphires are found in riverbeds or sediments, where they have been transported by natural processes like water erosion. Alluvial mining is generally less invasive than primary mining and can be done using basic tools, such as shovels and pans, as well as more advanced techniques like dredging or sluicing. This method is often employed in locations such as Sri Lanka, where sapphires are found in gravel beds.
**Key methods used in sapphire mining:**
Panning: A simple technique for alluvial mining, where gravel is sifted through a pan to find gemstones.
**Open-Pit Mining:** Common in large deposits, involving the removal of layers of soil and rock to access sapphire-bearing earth.
**Underground Mining:** Used when sapphire deposits are located deeper within the Earth and require tunneling to reach.

**3. Processing of Sapphire**
Once extracted from the earth, raw sapphires undergo several stages of processing to transform them from rough stones into polished gemstones suitable for jewelry.
**a. Sorting and Grading**
Raw sapphires are sorted based on size, color, clarity, and quality. This process is vital as it determines which stones are suitable for cutting and which may be sent for further treatment. Sapphires come in a variety of colors (such as blue, yellow, pink, and green), and stones are separated based on their market value and demand.

**b. Cutting**
Cutting is a highly skilled and precise process. The cutter must evaluate the stone for its natural shape, inclusions, and overall potential to maximize its brilliance. Sapphires are typically cut into popular shapes such as ovals, rounds, or cushions, and the facets are precisely arranged to reflect light optimally.
**Types of cuts:**
Cabochon: A dome-shaped, polished cut, often used for lower-quality sapphires or star sapphires that display asterism.
Faceted: Sapphires with faceted cuts have multiple flat surfaces, enhancing light reflection and brilliance.

**c. Polishing**
Polishing is the final stage of the cutting process. Sapphires are polished to a mirror-like finish using diamond powder or other abrasive materials. The goal is to remove any remaining imperfections and create a smooth surface that enhances the stone's optical properties.
**4. Enhancement and Treatment of Sapphire**
Not all sapphires naturally possess the color and clarity that make them desirable in the gemstone market. Various enhancement and treatment techniques are employed to improve the appearance of sapphires.
**a. Heat Treatment**
The most common and widely accepted method of enhancing sapphires is heat treatment. By heating sapphires to temperatures of around 1,600°C (2,912°F), gemologists can improve the color and clarity. This process can help to remove cloudy inclusions, intensify the blue color, or even change the color of some sapphires (e.g., turning lighter-colored stones to a more vivid hue).
Heat-treated sapphires are considered genuine, but they must be disclosed as treated gems. In the industry, heat treatment is seen as a standard practice, as it enhances the stone's beauty without altering its natural properties.
**b. Diffusion Treatment**
In diffusion treatment, sapphires are exposed to high temperatures in the presence of elements like beryllium, which diffuse into the stone's surface

and alter its color. This method can result in dramatic color changes and is primarily used to create vivid, rare hues that might not naturally occur in sapphires. However, diffusion-treated sapphires are considered less valuable than heat-treated or untreated stones and must be disclosed as such.




**c. Fracture Filling**

Fracture filling involves filling small cracks and cavities in sapphires with glass or resin to improve clarity. This treatment can enhance the appearance of lower-quality stones but is not permanent, as the fillings can degrade over time. Fracture-filled sapphires are generally less valuable than untreated or heat-treated gems.

**d. Synthetic and Lab-Created Sapphires**

In addition to natural sapphires, there are also synthetic or lab-created sapphires. These are chemically identical to natural sapphires but are created in a controlled environment using methods like the Verneuil process (flame fusion) or Czochralski process (crystal pulling). While synthetic sapphires are more affordable and widely used in various applications (e.g., watches, electronics), they must be clearly distinguished from natural sapphires in the jewelry market.

**5. Final Steps:** Certification and Market Value

Once the sapphire has been mined, processed, and treated, it is often sent to a gemological laboratory for certification. Reputable labs like the Gemological Institute of America (GIA) or SSEF provide detailed reports on the gemstone's origin, treatments, and characteristics.

The value of a sapphire depends on several factors:

**Color:** The most prized sapphires are those with deep, vivid hues, especially the sought-after “cornflower blue” sapphires from Kashmir or the rare Padparadscha sapphires, which exhibit a mix of pink and orange.

**Clarity:** The fewer the inclusions, the more valuable the stone.

**Carat Weight:** Larger sapphires are rarer and more valuable, but quality trumps size in many cases.

**Cut:** A well-cut sapphire maximizes the stone’s brilliance and can significantly enhance its value.


**6. Ethical Considerations and Sustainable Practices**

The mining of sapphires, like many natural resources, raises ethical concerns related to environmental impact, labor practices, and the livelihoods of local communities. Increasingly, consumers and companies are pushing for ethical sourcing of sapphires, ensuring that gems are mined in a manner that is both environmentally sustainable and socially responsible.

Some initiatives aim to provide traceability from mine to market, helping consumers make informed choices about where their gemstones come from and under what conditions they were extracted. Fair trade gemstones, and conflict-free certifications, are becoming more common as part of the broader trend toward transparency and ethical sourcing in the gemstone industry.

The mining, processing, and enhancement of sapphires involve a detailed and intricate series of steps that transform rough stones into breathtaking gems. Each stage, from the extraction of the stone to its treatment and final sale, contributes to the unique beauty and value of the sapphire. As consumers become more aware of ethical practices in gemstone sourcing, the industry is evolving to meet demands for sustainable and transparent processes. Whether untreated, heat-treated, or synthetically created, sapphires continue to be a symbol of beauty, luxury, and mystery in the world of gemstones.

Article by: Barbi Beatty

## Moonstone: Mining and Treatment Processes

Moonstone, a captivating gemstone recognized for its ethereal glow, has intrigued gem enthusiasts for centuries. Its unique play of light, known as adularescence, gives the stone its moon-like sheen, making it one of the most sought-after gems in the world. Although it's primarily known for its ornamental beauty, the processes involved in the mining and treatment of moonstone are essential for ensuring that it reaches its full aesthetic potential. This article delves into the extraction, treatment, and refinement processes of moonstone.


### Understanding Moonstone

Before exploring its mining and treatment, it's important to understand what moonstone is. Moonstone is a member of the feldspar mineral group, a silicate mineral that is abundant in the Earth's crust. It primarily consists of orthoclase and albite, two varieties of feldspar, which form layers during crystallization. The unique light reflection (adularescence) occurs when light passes between these intergrown layers of orthoclase and albite, scattering light in a way that creates the characteristic glow.

### Varieties of Moonstone

There are several varieties of moonstone, differentiated based on their color and clarity:
White Moonstone: The most common variety, often with a blue sheen.
Blue Moonstone: Known for its strong blue adularescence, making it the most highly valued.
Rainbow Moonstone: Displays a multi-colored sheen, though technically a variety of labradorite.
Gray and Peach Moonstone: Found in a range of warmer tones with a softer glow.


### Mining of Moonstone

Moonstone mining typically takes place in regions where feldspar-rich pegmatite rocks are present. Historically, the most notable moonstone deposits have been found in:

**Sri Lanka**: Known for the finest blue moonstone, Sri Lanka has been a major source for centuries.

**India:** Particularly for rainbow and gray moonstone.

Myanmar (Burma), Madagascar, Brazil, and Tanzania are also recognized sources.


### Mining Methods

#### 1. Open-Pit Mining

Moonstone is typically mined through open-pit methods. This involves the excavation of large surface pits in areas where moonstone-rich rocks, usually pegmatites, are found near the Earth's surface. In open-pit mining:
Clearing the area: Vegetation and overburden (soil and rock) are removed to expose the feldspar-rich veins.
Breaking the rock: Heavy machinery or explosives are used to break up the pegmatite rocks.
Extracting the moonstone: Workers manually collect the rough moonstone from the debris or use smaller tools to carefully extract the moonstone-bearing material.

#### 2. Alluvial Mining

In some areas, particularly in Sri Lanka, moonstone is found in alluvial deposits, where water has eroded and transported gemstones downstream. This process involves:
Sifting through riverbeds: Miners pan or sift through sediment in riverbeds, collecting gemstones that have been washed away from the primary source.

### 3. Underground Mining

In some parts of the world, moonstone mining can also occur through underground tunnels and shafts. This method is used where the moonstone-bearing rock is located deep within the Earth. Miners excavate tunnels to reach the gemstone-bearing veins and then extract the moonstone using hand tools or machinery.

## Processing of Moonstone Post-Mining

Once the moonstone is extracted from the Earth, it is far from the polished gems seen in jewelry. It undergoes several key processing steps to bring out its beauty.

### 1. Sorting and Grading

The first step after extraction is sorting and grading the raw moonstone based on size, color, clarity, and adularescence. The highest-quality moonstones have strong, vibrant adularescence, while lower-grade stones may have inclusions, cracks, or weak adularescence.

**Top-grade moonstone:** Exhibits a strong blue or rainbow sheen with little to no visible inclusions.
**Medium-grade moonstone:** May have a softer sheen and some visible inclusions.
**Low-grade moonstone:** Features weak adularescence or significant inclusions, often relegated to commercial-grade products.

### 2. Pre-Forming

Before any treatments or polishing, moonstone roughs are usually pre-formed into approximate shapes. This involves:
Sawing and trimming: Rough moonstones are cut into manageable sizes and shapes using diamond saws.
Shaping: The rough stone is further refined using grinding wheels to give it a rough cabochon shape. Since moonstone is most beautiful when cut en cabochon (a smooth, rounded surface without facets), this stage focuses on refining the overall dome shape to enhance the stone's optical effect.

### 3. Polishing

The polishing stage is where the moonstone's true beauty is revealed. The goal is to create a smooth, glossy surface that maximizes adularescence.
Polishing is done through:
Grinding: A rough grind is first done using diamond abrasives to remove any remaining imperfections from the pre-formed shape.
Finer polishing: Moonstones are then polished using finer diamond pastes or alumina compounds, which bring out a smooth, reflective surface.
**Final polish:** The stone is buffed with softer compounds to achieve a high luster and clarity.

## Treatment of Moonstone

Unlike many other gemstones, moonstone is rarely subjected to harsh treatments like heat treatment or dyeing. However, there are a few common treatments applied to enhance its appearance.

**1. Cutting for Optimal Adularescence**
One of the most important steps in moonstone treatment is the proper orientation of the stone during cutting. Adularescence is an optical phenomenon that only appears when light hits the stone at a particular angle. Skilled gem cutters carefully study the raw moonstone to determine the best angle for cutting so that the adularescence is maximized. Typically, moonstone is cut with the dome of the cabochon perpendicular to the layers of orthoclase and albite to enhance the play of light.

**2. Surface Enhancements**
Some moonstones may receive minor surface enhancements, such as:
**Waxing or oiling:** This helps to fill any surface imperfections and give the stone a more uniform appearance.
**Coating:** Although rare, some moonstones may receive a protective coating to enhance their durability or improve their visual appeal. However, reputable dealers often avoid this treatment, as it's considered non-permanent.

**Ethical and Environmental Considerations**

As with any form of mining, moonstone extraction has environmental impacts. Open-pit mining can lead to deforestation, habitat destruction, and soil erosion, particularly in tropical regions like Sri Lanka and India. Alluvial mining, while less invasive, can disrupt river ecosystems. However, there is increasing focus on sustainable mining practices, particularly in Sri Lanka, where artisanal miners are adopting techniques to minimize environmental damage.

Moonstone mining is often done by small-scale, artisanal miners, particularly in Sri Lanka, where traditional methods are passed down through generations. In recent years, there has been a growing emphasis on ensuring that moonstone is mined ethically, with a focus on fair labor practices and environmental sustainability.

The mining and treatment of moonstone are delicate processes that require a deep understanding of the gem's unique properties. From the careful extraction of raw moonstone from the Earth to the skilled cutting and polishing that reveals its adularescence, every step is crucial to bringing out the natural beauty of this gem. Whether set in fine jewelry or kept as a collectible, the moonstone's glow is a testament to both nature's wonders and human craftsmanship.

Article by: Barbi Beatty

# Upcoming Shows

**Huntsville Gem & Mineral Society**

Oct 11 – 13, 2024
1280 Airport Rd, Huntsville, AL 35802 Gems, Minerals, Jewelry, Fossils, Art Objects, lapidary materials and equipment. Free parking, food vendors, demonstrations, auctions, children's activities, and hourly door prizes. Hours are 10:00 am to 6:00 pm on Friday and Saturday, and 10:00 am to 5:00 pm on Sunday. Adult admission $3 or $5 for a weekend pass, primary and secondary students $1, under 5 free. For information, Web site www.Huntsvillegms.org, call 256-534-8803.

Link(s):
www.huntsvillegms.org

**Catawba Valley Gem & Mineral Club, Inc.**

Oct 18 – 20, 2024
Hickory Metro Convention Center, 1960 13th Ave Drive SE, Hickory, NC 28602 Catawba Valley Gem Mineral Club Show October 18-20, 2024

The Catawba Valley Gem and Mineral Club, Inc. will hold their 54th Annual Gem, Mineral, Fossil, and Jewelry show on October 18, 19, and 20, 2024 at the Hickory Metro Convention Center. The convention center is located at 1960 13th Ave Drive SE, in Hickory, NC. Hours are 10:00 a.m. till 6:00 p.m. on Friday, 10:00 a.m. till 6:00 p.m. on Saturday, and 10:00 a.m. till 5:00 p.m. on Sunday. Admission is $6.00 which is good for all three days. Children 12 and under are admitted free. Law enforcement officers, fire fighters and active or retired military with credentials, Scouts and Leaders in uniform will be admitted free anytime during this 3 day event. For an $1.00 off an adult admission coupon, got to www.cvgmc.com Special Events.

Link(s):
www.cvgmc.com or Facebook: Catawba Valley Gem & Mineral Club, Inc. Annual Show

**Knoxville Gem and Mineral Society**
Oct 18 – 20, 2024
Rothchild's Catering 8807 Kingston Pike, Knoxville, TN 37923
2024 KGMS Gem, Mineral & Jewelry Show in Knoxville, TN
Friday, October 18th, 2024 10:00 am – 6:00 pm
Saturday October 19th, 2024 10:00 am – 6:00 pm
Sunday, October 20th, 2024 11:00 am – 5:00 pm

The Gem Show is open to the public and has an admission fee of $8 a day for adults or $15 for the whole show; children under 12 are admitted free.

Link(s):
https://www.facebook.com/events/822868413339815/?ref=newsfeed

**Kanawha Rock & Gem Club**
Oct 19 – 20, 2024
South Charleston Community Center; 601 Jefferson Road, South Charleston, WV Saturday 10 - 5 ; Sunday 10 - 4

**St. Lucie County Rock and Gem Club**
Oct 19 – 20, 2024
The Mid Florida Event Center 9221 SE Civic Center Place Pt. St. Lucie Fl 34952
47th Annual Club Show. Load in is on October 18th beginning at noon, Show starts at 9:00 on Saturday and ends at 5:00. On Sunday the show starts at 10:00 and ends at 4:00. We feature handcrafted jewelry, rocks, minerals, gems and more. Admission is 5.00 for adults and accompanied minors are free with adult admission. For vendor opportunities

Contact slclubshow2023@aol.com

# BENCH TIPS

SHEET & WIRE STORAGE
The more you work with jewelry, the more problems you have finding the piece of metal or wire you need. Pieces of sheet are generally stored in various plastic bags, and the wire was in separate coils. A tip, buy an expanding file folder from the office supplies store (the kind that has slots inside and a folding cover). Mark the tabs for each gauge of metal & wire. Marked all pieces of sheet and wire with their gauge, put them in plastic bags, marked the gauge on the bag, and popped them into the folder.

# We always welcome new members!

Date_____ Misssissippi Gulf Coast Gem and Mineral Society

**http://www.mgcgms.org** **Application for Membership**

Individual: $20.00 Individual +1 relative Same Address: $30.00 Junior Under 18: $6.00

Name: _____ Cell: _____

Name: _____ Cell: _____

Address: _____ Home Phone. _____

City: _____

State: _____ Email 1: _____

Zip: _____ Email 2: _____

**Members Birthdays**

Adult: _____ Birthday M/D: _____

Adult: _____ Birthday M/D: _____

Junior: _____ Birthday M/D/Y: _____

Junior: _____ Birthday M/D/Y: _____

**Please Check All Applicable Interests**

- ○ Beading
- ○ Chain Mail
- ○ Field Trips
- ○ Fossils
- ○ Others:_____
- ○ Cabbing
- ○ PMC
- ○ Faceting
- ○ Wire Wrapping
- ○ Jewelry Making
- ○ Lapidary
- ○ Minerals
- ○ Silver Smithing

**How did you hear of us?**_____

**Please check the following:**

- ○ I understand that my picture or likeness may be used in Society promotions.
- ○ I authorize MGCGMS to include my contact information be included in Society listings for members to contact each other only.

**Signature**:_____

**Signature**:_____

Mississippi Gulf Coast Gem & Mineral Society Inc.
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**Snoopy Gems**
is the Official Publication of
The Mississippi Gulf Coast Gem and Mineral Society, Inc.

AFFILIATIONS
The Southeast Federation of Mineralogical Societies, Inc.
The American Federation of Mineralogical Societies, Inc.
S.C.R.I.B.E. (Special Congress Representing Involved Bulletin Editors)

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| ALAA | John Wright: Past Director |
| SFMS | John Wright: Past President |
| SFMS | Barbi Beatty: Treasurer & Past Asst Treasurer & Insurance Liaison |
| SFMS | Buddy Shotts: Past Long-range Planning, Past President, Past State Director |

Annual dues are:
$20 Individual
$30 (2) Members in same house hold
$6 Junior

# 2024Workshop/Meeting Dates

January 13 Mary C. 9:30-4:00
February 10 Mary C. 9:30-4:00
March 9 Mary C. 9:30-4:00
April 13 Mary C. 9:30-4:00
May 11 Mary C. 9:30-4:00
June 8 Mary C. 9:30-4:00
July 13 Mary C. 9:30-4:00
August 10 Mary C. 9:30-4:00
September 14 Mary C. 9:30-4:00
October 12 Mary C. 9:30-4:00
November 8 After Vendor Dinner 5ish
December 14 Christmas Party Mary C. 11:00am-3:30pm

**Dates subject to change.**
**Be sure to check each month!**
The November meeting is the Friday evening of the gem show after the dinner for the dealers at the Jackson County Fairgrounds Civic Center Building.
December will be our
Christmas Party and Installation of Officers

# September 2024

| 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 | | | | | |
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# Snoopy Gems

**Official Publication of** the Mississippi Gulf Coast Gem & Mineral Society Inc.

**http://www.mgcgms.org**

The Mississippi Gulf Coast Gem & Mineral Society is a Non-profit Organization Dedicated to Education, Science, and the Lapidary Arts and Crafts

Snoopy Gems MGCGMS
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