

THE BACKBENDER'S GAZETTE

NEWSLETTER OF THE HOUSTON GEM & MINERAL SOCIETY



MEMBER PROFILE: SCOTT SINGLETON

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BACKBENDER'S GAZETTE SUBMISSION DEADLINES

Articles are due on the 15th day of the month before the date on the BBG issue.

Copy is due for the next issue by the 15th of this month. Email content to editor@hgms.org



The

BACKBENDER'S GAZETTE



The Newsletter of the Houston Gem & Mineral Society

PRESIDENT'S MESSAGE

by Sigrid Stewart

I really hoped we would be discussing a gradual opening at the next Board meeting, but Covid-19 may have other plans. The surge in cases is scary. Looking forward to more remote meetings...

VICE PRESIDENT'S MESSAGE

by Michael Sommers

Upcoming General Meeting Program—Friday, July 31 @7:30p

Due to a slight schedule conflict, we will be having this presentation on the FRIDAY of the General Meeting week (July 31).

The online presentation for July will be Rachel Ford-Dingfield giving a short presentation on their family's trip to Vietnam and Thailand this winter.

They were not able to visit any of the mines due to the COVID-19 outbreak, but they did see many exotic sights, purchased lots of fine materials, and they have plenty of stories to tell (with pictures to back them up), including of their gem buying experience in Bangkok! Come and listen to a first-hand account of their experience, see some wonderful sights, and ask questions!

EDIT FROM JUNE ISSUE

In the June 2020 issue article on Beadoholique Bead Shop, we mistakenly included the contact Facebook link incorrectly. The correct link to follow along with Beadoholique is <https://www.facebook.com/beadoholique/>



**"Remember, we agreed. I'd carry the canned goods in
if you'd carry the rocks out."**

*by Ebners from Dust & Grit 2/00
via Golden Spike News 3/00*

MEMBER PROFILE: SCOTT SINGLETON

by Sigrid Stewart

Scott Singleton was born and raised in California, where his father worked in the aerospace industry. He graduated from New Mexico Institute of Mining and Technology in 1979 with a BS in Geophysics, and then worked for five years for Western Geophysical, Seiscom Delta, and Digicom doing marine seismic acquisition and processing. After receiving an MS in Geophysics from Texas A&M University in 1988, he resumed working with seismic acquisition, processing, and interpretation for Fugro-McClelland Marine Geosciences.

Scott has practiced and developed processing techniques for geophysical applications including relative amplitude techniques for AVO analysis, seismic inversion, rock property analysis, and lithology and fluid prediction. In 2008, Scott became Vice President of Global Processing and Interpretation for RSI and was responsible for company-wide reservoir characterization projects. In 2011, he became their Seismic Technology Advisor, and developed an integrated workflow to combine geology, geophysics, petrophysics, rock physics, and engineering techniques. In 2012 he started working for ION as Technical Manager for their multicomponent unconventional program. Since 2015 he has worked for Independence Resources Management, an equity-backed oil and gas producer, managing the application of geophysical techniques in the Permian Basin.



Whew! So, Scott has the technical chops! But there is much more. Scott also volunteers in many areas of his professional societies. He was first elected Treasurer for the Geophysical Society of Houston (GSH), and later became 1st Vice President and then President. Now he is a member of the GSH Editorial Board, serving as the

Technical Article Coordinator for the organization's electronic Journal, and writes the "Doodlebugger Diary". He is an Associate Editor of SEG's The Leading Edge and is currently the 2nd VP on SEG's Board of Directors. Scott was also on SEG's International Convention Organizing Committee in 2017 and is again for their 2020 convention, both of which are/were in Houston at the GRB Convention Center.

Scott first became interested in rockhounding as a 5th grader during a 2-year period that the family spent in northern New Jersey, collecting fossils, rocks and minerals. His parents knew some rockhounds who would talk to him about what he found and who gave him specimens as well. He retained his interest and some of that collection when his father was transferred back to California. Later, as an undergraduate in Socorro, New Mexico at New Mexico Tech, he would go out on field trips with the geology students to locations like the Kelly Mine (smithsonite), the Nancy Mine (psimomelane), and to the Bingham Mine (fluorite/galena). Late Paleozoic sedimentary fossils were also easy to find in the Socorro area which is where he developed a love for fossil collecting. Unfortunately, when he went to work offshore right after graduating, many flats of very valuable specimens stayed in New Mexico, something he hugely regrets to this day.

Scott says he joined HGMS in the early '90's to go on field trips, and that's what he commenced to do. In his early years he went on field trips to Oklahoma for trilobites, Arkansas for quartz, Whiskey Bridge for Eocene marine fossils. Mineral collecting opportunities of course are scarce in the eastern half of Texas, so he became interested in petrified wood. He began to lead field trips for petrified wood to Sam Rayburn Reservoir (Jasper), Toledo Bend Reservoir, Lake Livingston, Trinity, Giddings, College Station, especially Turkey Creek and White Creek, and further south along the South-Central Coast, including Live Oak, Karnes, and McMullen Counties. In the 2000's a regular part of participating in his Show Committees was the opportunity to go on 2 field trips per year to his choice locations.

Scott learned to cut and polish petrified wood in the HGMS shop. Eventually he acquired his own polishers, grinders, saws, flat laps, and tumblers. For years, he had a booth in the Swap Area of the annual Houston Gem & Mineral Show and sold lots of pieces of petrified wood. Currently he is down to a trim saw, 18- and 24-inch saws, a polishing wheel, a hand-held right-angle water-fed polisher/grinder, and an upright belt polisher, with 4 by 60-inch belts.

Recently he has been working on paleobotany in his garage apartment, which serves as his research lab, using his Zeiss thin-section microscope. Since the start of the pandemic when he started working on his material again, he has taken over 600 microphotos of petrified wood thin sections with a Canon camera mounted on the microscope. He has about a thousand thin sections and many of them are yet to be photographed. Each petrified wood specimen has 3 surfaces (thus 3 thin sections) - cross-section, radial, and tangential (90 degrees to the radial). These 3 orthogonal surfaces are needed to view and describe each unique surface of the wood cell (wood cells are rectangular in 3 dimensions, thus have 6 surfaces per cell, 3 of which are the same as their opposing side).

Many of the papers Scott has published in the last 15 years about petrified wood are on our website in the Paleo section and the Backbender's Gazette. In 2017 he published "Occurrence of Fossil Woods in Texas, primarily the Cretaceous and Tertiary" in the Gulf Coast Association of Geological Societies' Transactions publication (v. 67, p. 305-330),

winning the 1st place Grover E. Murray Best Published Paper Award. It is available in Scott's Dropbox for those who might be interested (it is 21 MB). Currently he is working on a new paper "Stem Anatomy of *Texoxylon fambroensis*, a Late Pennsylvanian (Kasimovian) Coniferopsid from Central Texas", by Scott W. Singleton and Suzanne H. Costanza. The paper is in the second round of reviews with the journal *Review of Palaeobotany and Palynology* (Elsevier), discussing a protoconifer which is a new genus and species. Editor's note: "Palaeobotany" is an alternate spelling.

Scott has also served HGMS as an officer for many years. He started as Dealer Chairman in 1999 and 2000, and then became Show Chair in 2001, the year we moved the show to the Humble Civic Center. He continued as Show Chair until 2008. He was Vice-President in 2005, President in 2006, and Past President Board Member in 2007. He returned as Show Chair in 2015 and has also been the Show Education Chair since 2004. He is currently Show Chairman, Trade Show Chairman and Web Site Chairman.

In his work with the Show, he researched HGMS archives extensively and wrote a History of the Show. His findings are serialized in five articles written for The Backbender's Gazette. They are available in the [May](#), [June](#), [July](#), [August](#), and [September](#) 2006 BBGs and on our web site:

[Part 1: 1948-1968-Early Days](#)

[Part 2: 1969-1977-Rise to Prominence](#)

[Part 3: 1978-1989-On Top of the World](#)

[Part 4: 1990-2000-Fall from Grace](#)

[Part 5: 2001-2006-The Phoenix](#)

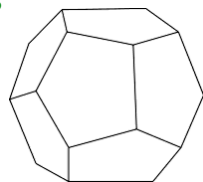
[Part 5 Graphs](#)

Scott is also an Elder in the Presbyterian Church and coordinates the Men's Retreat for his church. His wife, Eileen, is employed as a Biochemistry Lab Manager at Rice University. His daughter Lorraine is an incoming senior studying language and international business at Rice University.

Be sure to check the website at <http://hgms.org/backbender-extras> to download a copy of Scott's "Occurrence of Fossil Woods in Texas, primarily the Cretaceous and Tertiary" from the Gulf Coast Association of Geological Societies' Transactions publication.



Pyrite Pete says: "Texas currently has a mask requirement in effect when out in public spaces so please keep safe and wear your masks when out and about."



BENCH TIPS

by Brad Smith

SHEET & WIRE STORAGE

The more you work with jewelry, the more problems you have finding the piece of metal you need. My pieces of sheet were generally stored in various plastic bags, and the wire was in separate coils. Few were marked, so it often took me a while to locate that piece of 26 ga fine sheet I bought last year, especially since I usually take my supplies back and forth to classes.



A tip from a friend helped me organize everything. I bought an expanding file folder from the office supplies store (the kind that has 13 slots and a folding cover) and marked the tabs for each gauge of metal I use. Then I marked all my pieces of sheet with their gauge, put them in plastic bags, marked the gauge on the bag, and popped them into the folder. I usually store coils of wire loose in the folder, but they can also be bagged if you prefer. I use one tab for bezel wire and one for the odd, miscellaneous items.

The resulting folder is really convenient when I want to take my metal out to a class or workshop, and it's colorful enough for me to easily find in the clutter of the shop!

LITTLE BALLS

I often use little balls of silver and gold as accent pieces on my designs. They can be made as needed from pieces of scrap. Cut the scrap into little pieces, put them on a solder pad and melt them with a torch. Then throw the balls into a small cup of pickle.



If you need to make all the balls the same size, you need the same amount of metal to melt each time. The best way to do that is to clip equal lengths of wire.



But there's an easier way to get a good supply of balls. Some casting grain comes in near perfect ball form. Just grab your tweezers and pick out the ones you need. When you need larger quantities of balls, pour the casting grain out onto a baking pan, tilt the pan a bit, and let all the round pieces roll to the bottom. Bag the good ones and pour the rest back into your bag for casting. Balls can be sorted into different sizes using multiple screens.



Discover New Jewelry Tricks in Brad's "How To" Books

<https://Amazon.com/author/bradfordsmith>

A TUCSON SHOW EXHIBIT

by Stephen Blyskal

Member of the Houston Gem & Mineral Society

Last year I decided to put in an exhibit at the Tucson Gem and Mineral Society (TGMS) show. For a mineral collector like myself, this is the crowning experience—to display your favorite specimens and talk about them with other collectors. This is the story of that journey.

I have collected prehnite ever since discovering it during my early collecting years in my home state of New Jersey. Gradually, my collection expanded from the East Coast with specimens from localities in India, Mali, Namibia, Morocco, China, Australia, and Europe, among others. By 2018, I had a comprehensive collection with hundreds of specimens.

The theme of the Tucson Gem and Mineral Society's 2020 show was World Class Minerals, with each collector allowed to define what this meant to him. I interpreted this to mean the best specimens of prehnite in my collection from the most significant localities. So how did I start? This was an exercise in Project Management!



1. I brought 11 of my best specimens to the 2019 Houston Gem & Mineral Show and gave them to Stone Throne LLC to create individualized bases. These labeled acrylic bases are very popular, and they help display a specimen to its best advantage in a very professional manner.
2. I contacted Peter Megaw, Exhibits Chairman of the TGMS Show for many years. He directed me to the TGMS Web site where I filled out an application for my exhibit titled "A Love Affair with Prehnite." TGMS's Web site gave detailed instructions on the particulars of liner construction for the three sizes of standard cases available for displays. Construction of risers is left to the exhibitor. I chose the 48-inch-wide case.
3. After Christmas dinner, I commandeered the dining room table and began to manage my display project and the many decisions to be made.

4. First, I selected a thick white cardboard from Texas Art Supply and white foam core board for the liners to cover the sides, floor, and back of the case. For the risers, I selected 2-inch-thick Styrofoam sheets, cut them to size, and covered them with heavy white cardboard glued in place. I then began a search for cloth to cover the liner sections and the risers. At a local quilt shop, I found a pale gray-green cloth to complement the predominantly green color of my prehnite specimens. I bought their entire supply and hoped it would be enough.
5. With liners and risers ready, it was time to bring out the specimens and prepare a mock-up. Some were in my display cases and others were scattered through flats and drawers in my collection. My thought was not so much to show all the very best specimens in my collection, but to feature a wide variety of locations from around the world with very good examples. I pulled out about a hundred of my favorite specimens, and the winnowing began.
6. Some specimens were almost guaranteed a spot, like the prehnite from Antarctica and my best specimen from Prospect Park, New Jersey. I narrowed it down to two from India, two from Namibia, one each from Spain, Germany, and Switzerland, one from Kazakhstan, Morocco, and South Africa, and so on. Naturally, New Jersey, Virginia, and Connecticut were well represented in the exhibit.
7. Once I had the specimens selected, I began working on the arrangement and moving all the pieces around repeatedly. It became obvious that I needed more bases. I found some of the smaller sizes online, but larger 3" x 4" and 4" x 4" sizes were not available. However, a plastics company could supply 1/2" acrylic sheet cut to size.
8. These acrylic pieces showed saw-marks, so I researched methods of removing scratches—other than flame polishing. I then purchased four grit sizes of wet-dry paper to use on the edges of the acrylic blocks. I also purchased N-95 respirator masks to use while sanding. These came in handy later, too.
9. After matching bases to specimens, it was apparent I would need supports to hold some specimens upright in the best position, so another company selling 6' long, 1/2" diameter acrylic rods filled the bill. They sawed the rod to several sizes. I attached rods to the bases with a solvent glue and a special applicator. Are you beginning to get the idea that this was a complicated process? Remember that the TG&MS Show is one of the most outstanding shows in the mineral world, and I wanted to make a good impression as a first-time exhibitor.
10. With all bases made and specimens picked out, the final arranging of specimens began. After many iterations, finally I was satisfied with the overall appearance and the balance of specimen sizes, colors, and locations.
11. Getting the labels made came next. After confirming all locations with Mindat.org and making a list, I turned it over to my daughter, who is a graphic designer. She used an Adobe program to produce beautiful colored labels all of the same size. To get the quality I wanted, I went to a print shop to have color copies made.
12. Now it was time to cover the liners, base, and risers with my purchased fabric. Bad news—not quite enough material, and no more to be had. Eventually I decided to use a printed vinyl sheet with the title of the exhibit and a map of the world with small stars for locations. Once again, my daughter was able to produce a fabulous backdrop with colors to complement the liners and specimens, and to get it printed professionally. It was attached to the foam core of the backdrop.
13. Finally, with all the liners, risers, and backdrop covered, it was time to pack up the specimens. They filled four flats and a couple of boxes. The bases, labels, and supplies like tape, hot glue gun, and min-tac were in two more boxes. With the risers, liners and backdrop wrapped up together, and double checking everything, I was ready.

The TG&MS Show is four days long—Thursday, Friday, Saturday, and Sunday—so setup day for the dealers and exhibitors is Wednesday. We arrived Wednesday afternoon and checked in, picking up case keys, location map, and exhibitor tags. After several hours of unpacking and arranging, the finished case was set up to my satisfaction. The last thing I did before closing up and locking the case was to take several photos with my phone and my Nikon camera.

On Thursday, the first day of the show, I naturally spent some time around my case to talk to people who stopped to look at it. Then as I went around the show and talked to dealers, I mentioned my exhibit—and many of them went by to look. By Sunday, I had chatted with many people and impressed them with the wide variety of forms and colors for this mineral. I even met another dedicated prehnite collector! There are not many of us. I like being unique in that way.

Sunday afternoon came too quickly. All the exhibitors gathered together in a special place after the show closed at 5:00 and waited for the all clear to go back to the floor and begin the take-down process. We were there with a dolly and the cardboard shields for my risers and liners. By 6:00 p.m. we were on the floor, and I had a last look at my case before they unlocked it for me. Over the next hour and a half, all the specimens went back into their boxes and the labels and bases into their spots as well. We packed the risers and liners and left the hall, saying goodbye to new friends and to TG&MS members.

Prehnite $\text{Ca}_2\text{Al}_2\text{Si}_3\text{O}_{10}(\text{OH})_2$ is a calcium aluminum hydroxyl silicate that forms in several environments, including low-temperature metamorphic, commonly as crusts of very small crystals covering other minerals and rarely as distinct crystals in the orthorhombic crystal system. Prehnite is commonly some shade of green, from very pale to dark colored, but can also be white and tan. Rarely, prehnite is seen in orange, pale blue, and golden shades. Prehnite is not fluorescent, but it has the property of showing different shades of color depending on the color temperature of the light source.

Daylight-balanced fluorescent light makes prehnite glow, and incandescent light can wash out most of its color. Sunlight, LED, and halogen light can all affect the color of the specimen. Some of the blue prehnite from Merelani Hills, Tanzania changes to a purple hue under different light. Prehnite is commonly translucent, and since it has a hardness of 6–6.5 and takes a good polish, it is often used in beads and cabochons. Some exceptional specimens of prehnite can even be faceted into large 4–8 carat stones.

It is commonly found in cavities in basalt and diabase with zeolite minerals, calcite, and quartz. Many of the most famous localities for prehnite are in these rock formations, and specimens are noted for the now-vanished minerals they coated, such as anhydrite, glauberite, and laumontite. This formation, where a mineral coats a pre-existing mineral, is a type of pseudomorph called an epimorph.

Prehnite also occurs in skarns with epidote and grossular garnet, and in metamorphic schists and gneisses in alpine clefts. At the famous Jeffrey Mine in Asbestos, Quebec, Canada it occurs as remarkable single crystals to 7" in length and in a range of colors from tan to purple. The specimens in my display come from all of the environments of deposition described above.

Be sure to check the website at <http://hgms.org/backbender-extras> to view a video of Steve discussing all things Prehnite.

CHALCOPYRITE

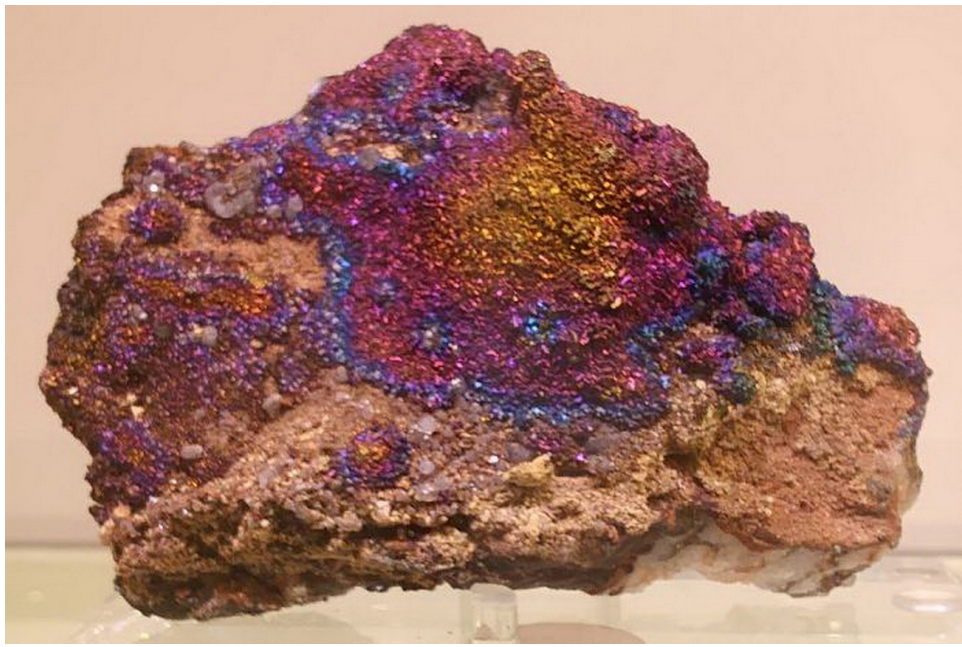
by Don Shurtz

Pleasant Oaks Gem and Mineral Club of Dallas, from Chips and Chatter 07/2020

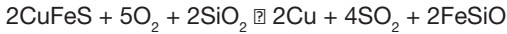
Have you ever been to the Martin Marietta Cement Quarry in Midlothian, Texas looking for pyrite? Have you ever picked up a reddish piece of Pyrite? If the answer to the second question was yes, then you may have found chalcopryite (pronounced as kal-ko-pryite). As with the pyrites, the chalcopryites from the Midlothian area are not of great specimen quality. In Midlothian, chalcopryite is quite rare compared to the pyrite. Chalcopryite is copper iron sulfide with a chemical formula of CuFeS_2 . Pyrite is iron sulfide, and it has a chemical formula of FeS_2 . Although they can look very similar, the two minerals can easily be identified by their Mohs hardness. Chalcopryite has a hardness of 3.5 to 4.0, while pyrite is harder at 6.0 to 6.5. A knife blade can easily scratch Chalcopryite—but not pyrite.

Chalcopryite and pyrite can have virtually the same appearance. Both present a brassy color with metallic luster. While both chalcopryite and pyrite may have a similar appearance, the chalcopryite often oxidizes on the surface and presents a purplish iridescent appearance. Trace elements can cause the iridescence to appear red, green, blue, and a more intense reddish purple. This is often mixed with the shiny brass color of the un-oxidized chalcopryite. The iridescence can be utterly fantastic, and it is frequently sought for mineral specimens. However, the buyer should be aware that chalcopryite could have been treated with acids to cause it to oxidize and show the iridescence.

Chalcopryite derives its name from the Greek word chalkos that means “copper” and pyrites that means “striking fire.” Chalcopryite is often referred to as “yellow copper” or “yellow copper ore.” Other names that are or have been used include “copper pyrite,” “cupropryite,” and “yellow pyrite.” It has also been called “peacock ore,” but that name more properly describes the mineral bornite, another copper, iron, and sulfate mineral.



Chalcopyrite's primary commercial use is as an ore for copper. It has been the most important copper ore for thousands of years. It can be roasted in with silica sand in open air or in an oxygen-rich atmosphere to produce copper, sulfur oxide, and iron silicate. The chemical formula for the roasting is:



It is easier to extract copper from chalcopyrite than from copper carbonates such as malachite or azurite, or from copper silicates such as chrysocolla. They must first be converted—generally by roasting—to a copper oxide and then reduced to pure copper. Chalcopyrite is found in thousands of places throughout the world. Some of the most significant locations include Australia, Russia, China, Romania, Italy, Germany, France, Italy, England, United States, Mexico, and Canada. In the United States, the most significant locations are Massachusetts, New York, North Carolina, Kentucky, New Mexico, and Washington. The largest deposit of nearly pure chalcopyrite ever found was in Ontario, Canada.



References:

- Chalcopyrite, Mindat.org, <https://www.mindat.org/>
- Chalcopyrite, Minerals.com, <https://geology.com/minerals/>
- Chalcopyrite, Wikipedia, <https://en.wikipedia.org/wiki/>

Pictures: Both pictures are by Don Shurtz. The specimens are displayed at Arkenstone Gallery of Fine Minerals.

**History Lesson 101: When the white man discovered this country, Indians were running it...there were no taxes. No debts, and the women did most of the work. All the Indian men did was hunt and fish as much as they wanted, whenever they wanted!
Here's the real kicker. The white man was dumb enough to think that he could improve on a system like that!!!!**

Via Golden Spike News 11/01

AFMS--SAFETY MATTERS: SIZE MATTERS

by Ellory Borrow, AFMS Safety Chair

from AFMS Newsletter 07/2020, via Chips and Chatter 07/2020

Size matters with safety masks, and so does fit. While there is special concern about wearing safety masks due to the COVID-19 virus issues, we as rockhounds have numerous reasons for wearing masks.

Most of the mask use in our hobbies revolves around dust—dust from rock drilling, grinding dust, hammering dust, rock sawing dust. Most, but not all, of that dust may be controlled by keeping things wet. The rest may be mitigated by wearing a suitable dust mask. Another use for masks is with regard to chemical fumes. For fume mitigation, much more stringent requirements are made of masks and will be discussed in a future Safety Matters article.

The reason for this timely mask story relates to our hobby—but perhaps more importantly—is about the COVID-19 virus problem. Not all masks are the same, so how we select, use, and wear the mask makes a difference. For use in our hobby activities, and for all intents and purposes, most dust masks will match the tasks we regularly face. Virus protection masks require numerous additional considerations. Is one concerned about inhaling air containing droplets, particles, or some carrier of a COVID-19 virus? Is one concerned about exhaling air with particles that may carry the COVID-19 virus? How long will we need to wear the mask? What is the proximity to possible virus issues? We need to make decisions about what we want the mask to accomplish.

Masks being used for COVID-19 include surgical masks, N-95 masks, painters masks, dust masks, VOC masks, many, many types of home-made masks, as well as ski masks, scarves pulled over face, kerchiefs, sleeved arm held across mouth and nose. Well, books can be written about all those options. For now, it is wise to, if one can find masks in the store, read the information on the mask's packaging, and select a mask suitable for virus mitigation. Virus are indeed very small. However, the particles they ride on are generally quite a bit larger in size. It is currently thought safe to use N-95 masks. The others offer varying degrees of protection, depending upon one's needs. Please check trusted sources for information on mask types, use, and recommendations.

With the common use of N-95 masks, there too are issues to be addressed. Actually, many of the other mask options have similar issues. Is the mask the right size? Size does matter. For a small face, such as with children, the N-95 may not fit sufficiently well to offer suitable protection. A mask's fit around the contours of the nose can be a problem area. Many of the better masks have special spongy sealing foam to seal around the nose. Some masks have a thin metal strip that can be pressed around the nose to contour the mask and ensure a proper fit around the nose. If air is moving in or out around the mask edges, especially in the nose area, the mask's effectiveness is greatly reduced. If one's glasses are being fogged while wearing a mask, that is a classic sign the mask's fit is not as effective as it should be. A hand moved close to the mask's perimeter can be used to detect air leaks around a mask. One's hand can easily detect moving air as it is moved around the mask while one is breathing in and out.

The take-a-ways are: a suitable mask must be selected for the task; and the mask's size and fit must be correct.

Sources of additional information include:

WHO—World Health Organization

CDC—Center for Disease Control

NIH—National Institute of Health

NIAD—National Institute of Allergies and Infectious Diseases

Checking with the above sources, as well as your own personal and trusted sources, plus your state and local sources would be wise in order to have the most current safety mask advice.

Your safety matters. Please be extra cautious in this current COVID-19 virus day and age.

UNUSUAL AND STRANGE ROCK FORMATIONS

Compiled by Ruth Rolston, from The Rock Prattle 06/2020

Some of you likely have traveled to the places I will mention in this article, and others like myself would love to visit them. I have seen a few unusual scenes in nature, but the ones I will cover are spectacular. My son got me interested when he called my attention to a formation in the Republic of Georgia. I hope I will be able to retrieve the picture by the time I complete this article.

Meantime, I will proceed with a few of the many examples left for us to admire and respect. Here are some questions to get your thinking started.

In Australia is a famous rock known as _____ and by the Native Aborigines as _____. What kind of rock is it _____?

Where is the Plymouth Rock located _____?

What kind of rock is it _____?

Where would you find the Sphinx, _____ and from what was it carved _____?

Where is the Taj Mahal, _____ and what kind of material was used for building it _____?

What is the most famous gemstone found in the world of this type of material _____?

Where is the Giant's Causeway _____? What type of rock makes up this formation _____?

When looking for information and photographs of these rocks, formations, and structures, I was struck by the number of them and the variety. It would take travel of many miles to experience a fair number of them. Almost every country has something to offer the visitor, so a virtual tour may be our best chance.

When thinking of Australia, one sees the famous **Ayers Rock**, or as the Aborigines call it, **Uluru**. It rises 863 feet above sea level in the desolate region of Northern Australia. This formation is sacred to the Aboriginal people. It is sandstone and appears to change colors. It glows at dawn and sunset. It is described as an inselberg, an “island mountain.” This means a prominent isolated knob or hill that rises abruptly from its surroundings. In other words, it is a monolith.



Ayers Rock / Uluru, Photo: Pixabay

The **Monument Rocks** are located near the town of Oakley, Kansas. They are large chalk formations that stand up to 70 feet tall and look as though they were arranged by someone. They are remnants of the Western Interior Seaway that once separated Western North America during the Cretaceous Period. Carbonates, such as limestone, can be found where the seaway dried over millions of years, suggesting abundant calcareous algae in the ancient waters. The rocks have been called “Chalk Pyramids.” (<http://www.atlasobscura.com>)

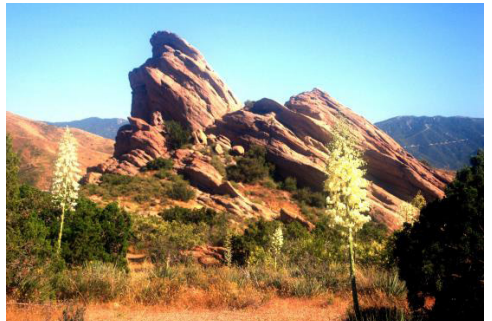


Monument Rocks / Chalk Pyramids, Photo: Kansas Travel Bureau



Plymoth Rock, Photo: Bing Images

The traditional site of the debarkation of William Bradford and the Mayflower Pilgrims who founded Plymouth Colony in 1620 is **Plymouth Rock**. It was broken in two, moved several times, and finally preserved for posterity in Plymouth, Massachusetts. It is igneous granite.



Vasquez Rocks, Photo: Wikimedia

Another interesting formation is found in the Sierra Pelona Mountains in Northern Los Angeles County, California. This site is called the **Vasquez Rocks**. It is the result of sedimentary and later seismic uplift. These rocks were formed by rapid erosion during uplift about 25 million years ago, and they

later were exposed by uplift activity along the San Andreas Fault. These rocks are seen in many films—especially *Star Trek*—and are sometimes referred to as Kirk Rocks. They are sandstone in a sharply folded syncline. A syncline is a trough or fold of stratified rock in which the strata slope upward from the axis.



Sphinx, Photo: Bing.com/images

A famous carved figure made of stone is the **Sphinx** in Egypt on the Giza Plateau. There are several across the ancient world, but this is the largest surviving sculpture. It bears the head of Kahfra, one of the pharaohs. It lies next to the other pyramids and is carved from limestone. Time and erosion have changed its appearance, but not its wonder.

A large granite rock called **Independence Rock** lies in Natrona County, Wyoming. During the 19th Century, it became a landmark on the Oregon, Mormon, and California emigrant trails. Many of the travelers carved their names in the granite or painted their names on the rock with axle grease. It is a monolith of Archean granite and is an isolated peak at the southwest end of the Granite Mountains.



Independence Rock, Photo: Bing.com/images



Taj Mahal, Photo: Bing.com/photos

natural fault line millions of years ago. Archaeological evidence shows that prehistoric people visited the area around 1330 BCE. About 250 BCE Native Americans camped in the park. Sedimentary beds of deep red and white sandstone, conglomerates, and limestone were deposited horizontally, but have now been tilted vertically and faulted into “fins”—an uplift of the Rocky Mountains and Pikes’ Peak massif. A massif is a compact

A famous structure made of stone is the **Taj Mahal** in Agra, Utter Pradesh, India on the South Bank of the Yamuna River. Built in 1624 by Mughai emperor Shah Jahan for his favorite wife Mutaz Mahal’s mausoleum. It is constructed entirely of metamorphic ivory-white marble.

An area of several rocks is found in Colorado Springs, Colorado. It is known as the **Garden of the Gods**. It was created during a geological upheaval along a



Garden of the Gods, Photo: Bing.com/images



The Giant's Causeway, Photo: Bing.com/images



*The Hope Diamond,
Photo: Daily Telegraph*

group of mountains, especially one that is separated from other groups.

Travel with me to Northern Ireland about three miles Northeast of the town of Bushmills, and we will find **The Giant's Causeway**.

This is an area of about 40,000 interlocking basalt columns resulting from an ancient volcanic fissure eruption. The tops of the columns form stepping-stones that lead from the cliff front and disappear under the sea. Most of the columns are hexagonal. Some have four, five, seven, or eight sides. The tallest rises about 39 feet high, and in places the solidified lava in the cliffs is 92 feet thick.

If you are in need of some new jewelry, you may consider this one. It is **The Hope Diamond**, one of the most famous jewels ever found. Owners date back almost 400 years. It is a rare blue color due to trace amounts of boron atoms. It weighs 45.52 carats in its present condition. It was discovered in India in 1666, cut as a larger stone—the French Blue—stolen, and recut in 1791. The larger section acquired the name “Hope” from the family name who acquired the stone and presented it in a catalogue in 1839. It is said to have a curse on it, possibly due to efforts to increase its value and arouse interest in the stone. It is insured presently for \$250 million. The stone is now housed in the National Museum of Natural History in Washington, D.C. It has a red phosphorescence under ultraviolet light due to the boron atoms.

The last landmark I will mention is lost to us due to its collapse May 3, 2003. It was **The Old Man of the Mountains** on Cannon Mountain in the White Mountains of New Hampshire. It was also known as **The Great Stone Face**. It was a series of five granite cliff ledges, and it appeared to be the jagged profile of a face when viewed from the north. It was first recorded in 1805. The Old Man of the Mountains, 2000

I could have included many other formations in this article, but these are the few I chose. No, I did not find that picture of the syncline in the Republic of Georgia, but I am still looking. It is cool. If I find it, I will pass it along. So many places, so little time!

Oh, well, such is rockhounding, yes?



*The Old Man of the Mountains /
The Great Stone Face,
Photo: Pinterest*

PURPOSE OF HGMS

The objectives of this Society are to promote the advancement of the knowledge and practice of the arts and sciences associated with the collecting of rocks, minerals, fossils, artifacts, and their identification and classification; the general lapidary art; the collecting and identification of gemstones; the designing and execution of jewelry or metalcraft; and to provide the opportunity to obtain, exchange, and exhibit specimens and rough or finished materials.

Membership dues are \$40 for an adult membership, \$60 for a couple, \$75 for a family (including all children aged 5-18). \$25 for a youth membership (ages 5-18), and \$500 for an adult life membership.

Advertising rates: \$70 for 2 months, 1/4 page; \$150 for 6 months, 1/4 page.

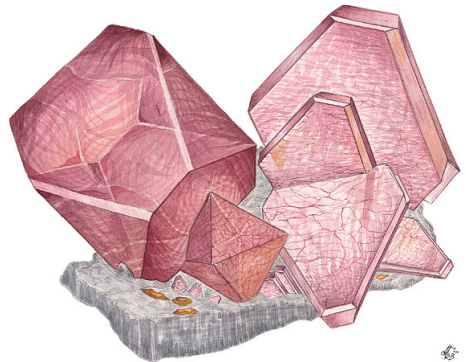
MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies.

All meetings are held at the Clubhouse which is located at 10805 Brooklet near the intersection of Highway 59 (Southwest Freeway) and Sam Houston Parkway (Beltway 8).

See the calendar inside the back page for when the different Sections meet.

The General Meeting is the fourth Tuesday of each month (except December) at 7:30PM.

The HGMS web site address is
<https://hgms.org>



HGMS BOARD OF DIRECTOR MEETING MINUTES

JUNE 2, 2020

by Nancy English

X	President—Sigrid Stewart	X	Beading—Maggie Manley
	1st Vice President—Mike Sommers	X	Day Light—Fred Brueckner
X	2nd Vice President—Beverly Mace	X	Gemstones & Faceting—Randy Carlson
	Treasurer—Tatyana Kuhne	X	Lapidary & Metalsmithing—Phyllis George
X	Secretary—Nancy English	X	Mineral—Steve Blyskal
X	Archaeology—Nancy Engelhardt-Moore	X	Paleontology—Mike Dawkins

President Sigrid Stewart called the SKYPE meeting to order at 7:38. A quorum was present.

PRESIDENT'S COMMENTS

The HGMS clubhouse is closed for member use in order to minimize the danger of Coronavirus spread. It will remain closed until the BOD determines that it is safe to reopen. All classes and in-person Section meetings are cancelled. Some Sections scheduled virtual meetings. The May and June General Meetings and programs can be enjoyed virtually.

Ron Talhelm notified President Stewart of a donation—20 boxes of minerals and lapidary material that he wants to give to the Club. Fred Brueckner offered to meet Ron at the Club.

Approval of Minutes: Maggie Manley moved to approve the minutes of the May 5, 2020 BOD meeting. Steve Blyskal seconded the motion, and it passed.

Treasurer Report: Tatyana Kuhne sent the Treasurer's Report to members on June 1, 2020. A promotional rate for the HGMS phone bill has expired. Nancy English will contact AT&T to renegotiate a better rate.

COMMITTEE REPORTS

BBG Editor: The BBG is still being organized and published by the Web Site Committee. Phyllis George continues to search for (and edit) interesting articles in other Gem & Mineral newsletters to add to the BBG.

Donations: A donor recently called HGMS to donate a pine jeweler's bench, a Diamond Pacific Genie, an Ultra Tec V-5 Digital Faceting Machine., and a MK Diamond Products MK-101 Trim Saw (10" blade), with aluminum stand. Randy Carlson picked them up for the Club, advertised them in the Weekly E-blast, and facilitated the sales. The donor received 50% of the proceeds. Thanks, Randy for taking care of this.

Education Committee: Maggie Manley will research YouTube videos for lapidary projects, then she will post them on the weekly e-blasts and in next month's BOD minutes.

Scholarship Committee: Mike Sommers reported via email that he has received one completed application and one inquiry. That seems to indicate at least a second application may be coming soon.

Show Committee: Steve Blyskal has received five more dealer contracts. Checks for thirteen dealers have been deposited. Twelve more dealers are waiting until closer to the deadline to decide. The new front hall dealer will not be back this year. The dealer is too susceptible to the Covid-19 virus.

Phyllis George commented that the AFMS Annual Show will be held in Knoxville, Tennessee in October. That show is on hold at this time. Currently, no hotels are taking reservations for conferences. This information does not affect the HGMS show. **Knoxville TN is in the Eastern Federation, and (as of this writing) it is still on total lockdown due to COVID-19.**

Web Site Committee: The next meeting is online on June 3, 2020. The Committee continues to work on the BBG.

SECTION REPORTS

Some Sections are meeting virtually because the Club is closed to the public for now. Check below and on the Sunday E-blasts from Jim Kendall for dates and times.

Archaeology Section: For the next three months, the Archaeology Section is on hiatus. Look for programs to resume in September.

Beading Section: Saturday, 1:30 p.m., June 20, 2020. Maggie Manley said to look for links in the BBG, weekly e-blasts, and the HGMS.org Web site for beading projects.

Day Light Section: Wednesday, 1:00 p.m., June 3, 2020. No report.

Gemstones and Faceting Section: Wednesday, 6:30, p.m., June 10, 2020. Randy Carlson asked if anyone is interested in a virtual Gemstones and Faceting Section meeting using WebEx, Zoom, or Skype. Please, let him know your thoughts. (Post BOD meeting, via email on June 4 Randy posted, "There will be no June meeting. Not at the clubhouse and not a virtual meeting." Randy Carlson knows about a Prismatic Faceting Machine for sale. His research indicates it is similar to a Graves machine. He called the owner to ask about condition, age, accessories, and pricing. If anyone is familiar with this machine, please share your knowledge with Randy Carlson. Randy will update when he gets info back from the seller.

Lapidary and Silversmithing Section: Monday, 7:30 p.m., June 15, 2020. No report

Mineral Section: Wednesday, 7:30 p.m., June 17, 2020. No plans for the June meeting. The Mineral Section held a virtual meeting via Google Meet on May 20, 2020. Nine members attended. We shared stories about what was happening in our lives, and we showed off minerals acquired since the last physical meeting. The usual problems with noise and people dropping off, then returning to the call did not prevent us from having a good, shared meeting.

Paleo Section: Tuesday, 7:30 p.m., June 16, 2020. (Post BOD meeting, a Paleo on-line meeting was planned.) **Jim Paras** conducted a Google Meets Paleo Meeting on June 16 about tiny fossils from the Midway Formation. Neal Immega dug them up while traveling. He gave a bag of the unearthed treasures to Jim Paras to examine. Nine people attended. It was highly informative.

Youth Section: Saturday, 10:00 a.m. to Noon, June 6 and 20, 2020 and July 4 and 18, 2020. No meetings scheduled yet.

OLD BUSINESS

Building Issues: Items in italics are still outstanding. Tasks will be tackled when Club reopens.

1. New batteries are needed for the solar light under the hood of parking lot door. Would anyone like to take ownership of this? If not, Sigrid will have someone look at it.
2. The filters in the shop have not been changed.
3. A tech specialist from Lee Thompson Air Conditioning told President Stewart that we need to put larger vents into the doors of the libraries to facilitate circulation. Kris Dingfield may take care of this. He has been out of the country. If the doors come off to put in the vents, maybe we can refinish them at the same time.
4. Time to look at a new air conditioner for the shop area. Due to the Coronavirus quarantine, the replacement air conditioner is delayed until late spring. Postpone until fall.
5. We should replace the meeting room carpeting. Postpone until fall.
6. We should replace the hot water heater.
7. A flowerpot with sand in it will satisfy the need for the outdoor cigarette disposal requested by Dunn Southwest.
8. President Sigrid Stewart purchased a new battery and pads for the Automated Emergency Defibrillator. They have been installed by Neal Immega.
9. Neal Immega is replacing shafts in the saws with stainless steel shafts to promote longer use.

Reopening the HGMS Clubhouse: The Board discussed opening the clubhouse, but they decided to keep it closed through August. They will reassess the situation then and determine if they open it in September. Consideration of full and unrestricted use of the HGMS Clubhouse should be considered after a vaccine and cures are available. Some shop foremen are willing to open the shops by appointment only. Others will not participate until vaccines and cures are available. No concrete decision was reached on whether to open the Club in July.

NEW BUSINESS

HVAC: (Post-BOD Meeting) Neal Immega reported that the Shop air conditioner is not cooling. Voting via email, the BOD agreed to replace it.

The next Board of Directors meeting will be Tuesday, July 7, 2020, 7:30 p.m.

The next General Meeting will be Tuesday, June 23, 2020, 7:30 p.m. Bob Moore will present Greco Roman Medicine, a look at the Ancient Greek pandemic.

At the last General Meeting Tuesday, 7:30 p.m. May 26, 2020, George Kramer had computer problems and her program, Water on the Moon was postponed to Friday May 29, 2020. A small group attended the Friday night meeting. Dr. Kramer was a member of the Moon Mineral Mapper (M3) science team that clearly and precisely detected the first water signature from the lunar surface! We heard about the M3, how it works, the results, and what they mean. Nancy English complimented Dr. Kramer on taking a very technical subject and presenting it in a way that a layperson could follow and understand.

Adjourn: Phyllis George moved to adjourn. Mike Dawkins seconded the motion, and it passed. The meeting adjourned at 8:41 p.m.

HGMS GENERAL MEETING MINUTES

MAY 26, 2020

by Nancy English

President Sigrid Stewart called the Skype video meeting to order at 7:35 p.m. Several members signed on and off during the meeting. No specific count was taken.

PRESIDENT'S COMMENTS

Silent Auction: We look forward to the Silent Auctions when the Clubhouse reopens, and the General Meeting can be attended in person. The Board will be discussing the reopening of the shops in the Clubhouse at the June 2, 2020 meeting.

The Board and Show Committee are working closely together to determine the fate of the Annual Show, scheduled for November 6, 7, 8.

Approval of Minutes: There was no meeting in March due to the COVID-19 quarantine. The April 28, 2020 General Meeting was a causal Skype virtual discussion of members' stay-at-home activities. No minutes were taken.

SECTION/COMMITTEE REPORTS

The HGMS Club house is closed to in-person meetings. Some Sections and Committees are having virtual meetings. President Stewart asked members to look for reports of future Section meetings and presentations in the BBG, on the Web site <https://hgms.org>, or by reading the weekly e-blast from Jim Kendall. If you are a member and not on Jim Kendall's e mail list, please contact him at kendallja@att.net.

OLD BUSINESS

President Stewart asked members to look for the progress of Old Business items in the BOD Meeting Minutes in the latest BBG.

Shop News: Remember to watch the HGMS Sunday E-blasts for equipment sales.

NEW BUSINESS

The next Board of Directors meeting will be Tuesday, June 2, 2020, 7:30 p.m.

The next General Meeting will be Tuesday, June 23, 2020, 7:30 p.m. Speaker: Bob Moore, Chair of the Archaeology Section, will present **Lost Ancient Greco-Roman Medicine**. His presentation will cover the origins of ancient medicine and how sophisticated it became during the 2nd century due to the Roman gladiator games, and then how it was lost for centuries.

Adjourn: Phyllis George moved to adjourn the meeting. Mary Ann Mitscherling seconded the motion, and it passed.

Dr. Georgiana Kramer had problems with her Internet connection, so her program, **Water on the Moon** was postponed to 7:30, Friday May 29, 2020.

GENERAL MEETING MINUTES

MAY 29, 2020

by Nancy English

President Sigrid Stewart called the meeting to order at 7:30. Eleven people attended the Skype meeting.

While we were waiting for people to sign in, President Stewart invited members to share what they have been doing. Neal Immega said he had been replacing the shafts in the grinding wheels. Neal also mentioned that Holly and David Gardner donated a saw to the Club. Neal has upgraded their 18" Highland Park slab saw with a Plexiglas top to match current configurations. This machine allowed Neal to get rid of the two Lortone 18" machines that had problems with the power feed. Thanks go to the Gardners.

Vice President Sommers introduced the Program: **Water on the Moon** presented by Dr. Georgiana Kramer. Dr. Kramer was a member of the Moon Mineral Mapper (M3) science team that clearly and precisely detected the first water signature from the lunar surface! Join us to hear her tell us about the M3, how it works, the results, and what they mean.

A FIELD TRIP IS A SOCIAL OCCASION



—Cartoon by Erston Barnhart in *Are We Having Fun Yet? An Irreverent but Affectionate Look at Rockhounds*

via Golden Spike News 11/01

SHOW TIME 2020

DATE	LOCATION	SHOW INFO
Aug-1-2	Lubbock, TX	Lubbock Gem and Mineral Society Lubbock Memorial Civic Center, 1501 Mac Davis Lane walt@lubbockgemandmineral.org www.lubbockgemandmineral.org
Aug. 8-9	Gonzales, LA	Baton Rouge Gem & Mineral Society Lamar Dixon Expo Center-Trademart Building 9039 S. Saint Landry Ave mercymom3@gmail.com www.brgemandmineral.org
Aug. 15-16	Bossier City, LA	Arklatex Gem & Mineral Society Bossier City Civic Center, 620 Benton Rd. larockclub@gmail.com ; larockclub.com
Aug. 22	San Antonio, TX	Southwest Gem and Mineral Society Wonderland of the Americas Mall I-10 and Loop 410 at Fredericksburg Road jspeck2@att.net ; http://www.swgms.org/
Aug 29-30	Fort Worth, TX	Fort Worth Gem and Mineral Club Will Rogers Memorial Center, 3401 W Lancaster http://www.fortworthgemandmineralclub.org/show.html
Sep. 11-20	Denver, CO	Annual show; Greater Denver Area Gem and Mineral Council Denver Mart, Expo Hall, 451 E 58th Ave Many shows, many venues Denver Mart, Expo Hall, 451 E 58th Ave nkk9960@hotmail.com https://www.denvermineralshow.com/
Sep. 18-20	Howell, MI	MWF hosted by ??
Oct. 10-11	Temple, TX	Tri-City Gem and Mineral Society Frank Mayborn Civic and Convention Center, 3303 N. 3rd Street / Lois Ruth Rolston, 106 Ottoway Drive, Temple, TX 76501, lrolston@hot.rr.com
Oct. 23-25	Austin, TX	Austin Gem and Mineral Society (AGMS) Palmer Events Center, 900 Bartons Springs Rd Laird Fowler, 6719 Burnet Ln, Austin, TX 78757 (512) 458-9546, showchairman@austingemandmineral.org www.agms-tx.org
Nov. 6-8	Humble, TX	Houston Gem and Mineral Society Humble Civic Center, 8233 Will Clayton Parkway show@hgms.org ; hgms.org
Nov. 7-8	Amarillo, TX	Golden Spread Gem, Mineral & Treasure Society Amarillo Civic Center, 401 S. Buchanan patfoster2@hotmail.com ; http://amarillotreasure.com/

2020 HGMS OFFICERS

President	Sigrid Stewart	President @HGMS.org
First Vice President	Mike Sommers	Programs@HGMS.org
Second Vice President	Beverly Mace	Membership@HGMS.org
Secretary	Nancy English	Secretary@HGMS.org
Treasurer	Tatyana Kuhn	Treasurer@HGMS.org
Archaeology Section Board Member	Nancy Engelhardt-Moore	Archaeology@HGMS.org
Beading Section Board Member	Maggie Manley	Beading@HGMS.org
Daylight Section Board Member	Fred Brueckner	
Faceting Section Board Member	Randy Carlson	Faceting@HGMS.org
Lapidary Section Board Member	Phyllis George	
Mineral Section Board Member	Steve Blyskal	Mineral@HGMS.org
Paleo Section Board Member	Mike Dawkins	Field_trips@HGMS.org

HGMS SECTION CHAIRS

Archaeology Section Chair	Bob Moore	Archaeology@HGMS.org
Beading Section Chair	Kim Fuselier	Beading@HGMS.org
Day Light Section Chair	Nancy Searle	Daylight@HGMS.org
Gemstone & Faceting Section Chair	Randy Carlson	Faceting@HGMS.org
Lapidary & Silversmith Section Chair	Anthony Lucci	Lapidary@HGMS.org
Mineral Section Chair	Stephen Blyskal	Mineral@HGMS.org
Paleo Section Chair	Neal Immega	Paleo@HGMS.org
Youth Section Chair	Beverly Mace	Youth@HGMS.org

HGMS APPOINTED POSITIONS

Assistant Show Chair	Clyde McMeans	
Backbender's Gazette Editor		Editor@HGMS.org
Clubhouse Chair	Neal Immega	ClubhouseChair@HGMS.org
Day Light Contact Person	Nancy Searle	Daylight@HGMS.org
Donations	Neal Immega	Donations@HGMS.org
HGMS Education Chair	Maggie Manley	Classes@HGMS.org
Lapidary Templates	Mary Ann Mitscherling	Templates@HGMS.org
Librarian for Main Library	Neal Immega	Librarian@HGMS.org
Publicity Chair	Sara Metsa	Publicity@HGMS.org
Scholarships	Mike Sommers	Scholarship@HGMS.org
Show Chair	Scott Singleton	ShowChair@HGMS.org
Trade Show	Scott Singleton	Tradeshow@HGMS.org
Trade Show	Sigrid Stewart	Tradeshow@HGMS.org
Volunteer Coordinator	Nancy English	VolunteerCoordinator@HGMS.org
Webmaster	Sigrid Stewart	Webmaster@HGMS.org
Youth Section Assistant	Elizabeth Guynn	Youth2@HGMS.org

JULY 2020

SUN	MON	TUES	WED	THURS	FRI	SAT
X	X	X	10a-3p Shop Open 1p-3p Day Light Section	10a-3p Shop Open 7:30p-9:30p Archaeology Section		10a-12p Youth Section 12p-3p Shop
5	6	7	10a-3p Shop Open 6:30p-8:30p Gemstones & Faceting Section	10a-3p Shop Open	10	10a-3p Shop Open
10a-3p Shop Open		10a-3p Shop Open	10a-3p Shop Open 7:30p-9:30p Mineral Section	10a-3p Shop Open	17	10a-12p Youth Section 12p-3p Shop 1:30p-3:30p Beading Section
12	13	14	15	16	17	18
10a-3p Shop Open		10a-3p Shop Open	10a-3p Shop Open	10a-3p Shop Open	24	10a-3p Shop Open
19	7:30p-9:30p Lapidary & Silversmithing Section	10a-3p Shop Open 7:30p-9:30p Paleo Section	10a-3p Shop Open	10a-3p Shop Open		
10a-3p Shop Open		10a-3p Shop Open 7:30p-8:30p General Meeting	10a-3p Shop Open	10a-3p Shop Open	7:30p General Meeting Program	X
26	27	28	29	30	31	

AUGUST 2020

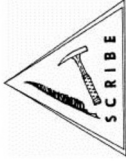
SUN	MON	TUES	WED	THURS	FRI	SAT
 Due to coronavirus, many club events are postponed -Please check our online calendar at hgms.org/events/calendar for updated information 				X	X	10a-12p Youth Section 12p-3p Shop Open
2	3	4	10a-3p Shop Open 1p-3p Day Light Section	10a-3p Shop Open 7:30p-9:30p Archaeology Section	7	10a-3p Shop Open
10a-3p Shop Open		10a-3p Shop Open	10a-3p Shop Open 6:30p-8:30p Gemstones & Faceting Section	10a-3p Shop Open	14	10a-12p Youth Section 12p-3p Shop 1:30p-3:30p Beading Section
9	10	11	12	13	14	15
10a-3p Shop Open		10a-3p Shop Open	10a-3p Shop Open 7:30p-9:30p Mineral Section	10a-3p Shop Open	21	10a-3p Shop Open
16	7:30p-9:30p Lapidary & Silversmithing Section	10a-3p Shop Open 7:30p-9:30p Paleo Section	10a-3p Shop Open 7:30p-9:30p Mineral Section	10a-3p Shop Open		
10a-3p Shop Open		10a-3p Shop Open 7:30p-8:30p General Meeting	10a-3p Shop Open	10a-3p Shop Open	28	
23	24	25	26	27	28	29
10a-3p Shop Open		10a-3p Shop Open	10a-3p Shop Open	10a-3p Shop Open		
30	31					

THE BACKBENDER'S GAZETTE

NEWSLETTER OF THE

HGMS | HOUSTON GEM & MINERAL SOCIETY

10805 Brooklet
Houston, Texas 77099
(281) 530-0942



SCFMS

1998 - 1st (Large)
2000 - 1st (Large)
2003 - 1st (Large)
2005 - 1st (Large)
2006-2016- 1st (Large)
2017 - 1st (Large)
2018-1st Large
2019-1st Large

AFMS



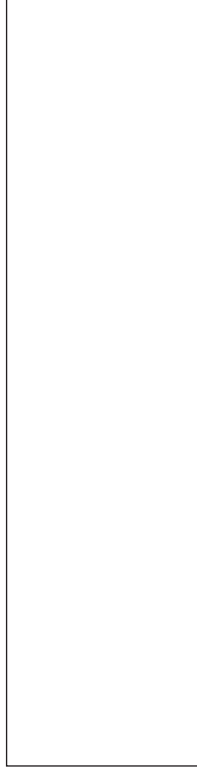
AFMS

1998 - 2nd (Large)
2004 - 3rd (Large)
2007 - 1st (Large)
2010 - 2nd (Large)
2012 - 3rd (Large)
2013 - 3rd (Large)
2014 - 2nd (Large)
2017 - 3rd (Large)
2019-2nd (Large)

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