



The **BACKBENDER'S** **GAZETTE**

The Newsletter of the
Houston Gem & Mineral Society
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August General Meeting Presentation

*by Scott Singleton
1st Vice President*

Our August presentation will be given by David Temple, volunteer coordinator for the Houston Museum of Natural Science and Past President of HGMS. David recently had the opportunity to go on a boondoggle, oops—I mean information gathering trip to the Black Hills Institute in Hill City, South Dakota, where he attended a symposium commemorating the 100th anniversary of the naming of the species *Tyrannosaurus rex*. He reports that the three days of talks were very interesting and informative. Was T-rex a scavenger or a predator? What was his true mode of locomotion?



What was the purpose of his forelimbs? We will find out the answers to all these questions and more. There were also new T-rex discoveries, including the interesting Horner T-rex, which supposedly had soft tissue preserved and was the source of the reports of being able to determine the sex of the fossilized bones.

Ammonites—Shared Efforts

Memorial Day Field Trip to Lake Texoma

by Neal “field trip” Immega

Member of the Houston Gem & Mineral Society

Squid? It may seem very strange to go to the north of Texas to look for squids, and that is what the park ranger on Lake Texoma thought. More than one passerby commented to Inda, while she was holding down “headquarters” at the boat dock at Lake Texoma, that there were people on the lakeshore who did not seem to be fishing like normal folks. Indeed,



Ammonites continued on page 4

Contents

Ammonites—Shared Efforts	1
August General Meeting Presentation	1
HGMS Officers and Section Chairs	3
Purpose of HGMS	3
Precious Metal Mine	7
New Hampshire and Maine, 2005	10
Lapidary Section Program	12
July General Meeting Presentation	13
Day Light Section	14
In Our Library	15
Paleontology Section	16
Mineral Section	16
Pre-Show Events	18
Show Volunteer Sign-Up	19
HGMS Show--Youth Education and Scouting	20
2005 Show Forecast	21
Unofficial June HGMS Board Meeting Minutes	21
AFMS & SCFMS Reminders	23
New Member Letter	24
A Brief History of HGMS	26
Agates	27
Tips & Hints	29
ShowTime 2005	30

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Copy is due for the October issue by Thursday, August 30, 2005. Yes, it's early but necessary. (When the 8th falls on Saturday, I create the BBG that same weekend. When the 8th fall on Sunday, I create the BBG the following weekend.)

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 \$30 for an adult membership, \$40 for a couple, \$50 for a family (including all children aged 5-18), and \$8 for a youth membership (ages 5-18).

Advertising rates: \$70 for 2 months, ¼ page; \$150 for 6 months, ¼ page.

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

All meetings are held at the Clubhouse 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 at 7:30. The HGMS Internet address is <http://www.hgms.org>.

Ammonites continued from page 1

it looked like they were wandering around, beating on the rocks with hammers! It wasn't that they held Inda responsible for our actions; they just seemed to find the very strange behavior of these rock-pounders worthy of comment. Inda might have been smart to deny all knowledge of our group, but no, she bailed us out. She reported that the ranger had no comprehension of what a fossil squid looked like, but he reckoned that there was probably no bag limit for 90 million year old, marine squids in a freshwater lake. Whew, I did not know that Inda could fast-talk a ranger. I wonder if I could rent her out to Brian Honsinger for duck hunts.

A little ancient history—a classically trained British paleontologist named a fossil squid for the rams horn headpieces worn by priests of the Egyptian sun god Ammon-Ra—i.e., ammonite. A sun god seems appropriate because North Texas was having more than its share of sun just then. Now, I wouldn't go so far as to say that ammonites exposed in Lake Texoma were *causing* the drought. My patented Immega rain jinx arrived with the field trip, cooled things off a bit, but did little to raise the level of the lake. Excellent! You probably recall that Peter Ragusa's trip last year did very well even though the lake was high. I do think we must have found the place where old ammonites went to die. Well, actually, it was more the place where ammonite shells ended up after they died, bloated with gas, rose to the surface, and washed ashore—maybe the strand line of the Cretaceous sea.

For us to find an ammonite fossil, its shell must have been filled with lime mud. This is not as easy as it sounds. This critter was not a snail with a single, spiral chamber. Ammonite shells, like those of the modern chambered nautilus, had septa (separators) between their chambers. All we find now is an internal mold of the filled chambers and the suture lines of the septa. This is because their shells were aragonite, an unstable form of calcium carbonate. All too often we only find the outer living chamber because that is open to the ocean and easy to fill with lime mud, producing just a partial spiral. The shell has to be broken to fill the inside chambers with lime mud. Very rarely was the shell material preserved. Jewelry-grade ammonite shell material, "ammolite," comes from places like Canada and South Dakota where the ammonite shells were buried in a rock that did not allow water penetration to dissolve the aragonite.



It is just a lucky accident that the Corps of Engineers decided to build a dam in a place where Cretaceous shales alternate with limestones containing ammonites. The shales are very important because ammonites found in the limestone just above a shale layer are much easier to extract. Equally important is that wave action from the lake erodes the limestone/shale package much more quickly than a 100% limestone section. The Hill Country of Texas has lots of ammonites, too, but they are not so easily extracted because the rock is almost all hammer-ringing limestone.

Row, row, row your boat! Our trip that found the much lower water level revealed a much wider collecting area, just as if Moses (or Ammon-Ra?) had parted the lake for us. The only problem is that HGMS was not the first one there. People had been collecting a lot because there were piles of ammonite sections laid out on the rocks. We had to work for our ammonites, but that is only fair. Last year we had to hand carry the ammonites a mile or more to the cars parked at the main boat dock. I warned the field trip participants that we had to find a different solution, and people were very creative.

One member, Tom Lammers, is a serious remodeling contractor (and dino dig slab maker). He and his business partner are not afraid of real work, and they know about demolition! Their solution to the transportation problem was to bring a canoe with three kids to power it, and to move Tom's pickup to the old boat dock to shorten the voyage. The lack of a road did not stop Tom—he just drove cross-country to the boat dock. The kids have a great future in industry as long as they do not learn about things like minimum wage. They cleaned the place out of ammonite fragments—a volume job.

Rick Rexroad, our Paleo Section President, devised a great solution involving a kayak and an inner tube. He loaded the tube with enough ammonites to almost sink it, and just paddled back to the boat ramp. Picture a bright red kazoo



pulling a rubber ducky! The only problem came when Rick returned by himself in the evening to transport more fossils. It seems that a local (and well known) criminal ripped off his kayak while Rick was moving his equipment from lake level to the top of the boat ramp. Fortunately an alert boater got a license plate number, and Rick was able to get help from the local sheriff to get his stuff back—everyone was incredibly helpful. Oddly, the thief did not take any of the ammonites. No taste!

Al Mowery has to get the “heavy equipment award.” He brought a canoe *and* a por-

table engine-powered air compressor to run his jackhammer. Okay, he never had to deploy the jackhammer, but he was *PREPARED*. I was glad that I did not have to help levitate this device into his canoe.

All together now! The real story is about the cooperation among our field trippers. The size of our prey made working together a really good idea. Stand by for an exposé on our Past HGMS President Elizabeth Fisher. Those of you who know Eliz will recall that she is a bit puny compared to Tony, Rusty, and me. But that is all right, because she was smart enough to bring along Al Mowery as her heavy. Al must have gotten strong from his gold mining activities, though maybe not from handling large quantities of bullion. Actually, I *do* have some doubts about Eliz's wisdom, because she told me that she wanted the biggest ammonite in the state! No way—the Texas Memorial Museum has some that are four feet across that weigh more than 300 pounds, and those were not found at Lake Texoma. Whew, saved by geology! Unsuccessfully, I pointed out that the really pretty ammonites are those with a distinct keel and distinct ribs that stick out with a double row of knobs on the edge. These beauties max out at a foot across and are suitable for discriminating collectors. The big ones are smooth without distinguishing features and are mostly suitable for Paul McGarry to cement into the rock wall around his house. I failed to convince her. Some people just want quantity rather than quality.



Eliz went to the site I call “Ammonite Beach” and quickly glommed onto the biggest ammonite there. Everyone who had been there before walked right past it because it was embedded in a nice hard limestone block that just happened to weigh about a thousand pounds. Eliz attacked it like a woodpecker with a tiny rock pick—and the hammer just bounced off. This was probably a good tactic because Al shooed her off and started in with a serious pry bar and a much bigger hammer. In an effort to avoid being sucked into this project, I stood around taking pictures and offering sage advice like “Don’t stand directly in line with the swing of the hammer,” and “Don’t put your toes under the rock while you pry on it.” I took dozens of pictures, but Eliz paid me to include this one which shows

just her working on the fossil, as if she had done it all by herself (she remembered that I run a business called *Incriminating Photos, Bought and Sold*). Sunday Bennett claimed that she was gathering evidence for my business with her nonstop video camera, but to me it looked like she was just experiencing the effects of too much sun and was standing around talking to herself.

After Al's delicate extraction, the ammonite weighed about 200 pounds and did not seem inclined to go anywhere by itself. It needed to go boating, but only Rusty Bennett had the muscle to get it into the canoe, so he did just that—an amazing act of levitation. (Just in case you find yourself in the same situation but superman is off doing something else at the moment, Tony Lucci suggests that people can move serious loads by putting the load on a tarp and having four people grab the corners.)

You might think that Al and Eliz could then paddle happily off to the boat ramp, but no. The rangers roared up to their very heavily loaded canoe and nearly swamped it. The rangers said that they wanted to see whether Al had a life jacket in the canoe, but I suspect that they just wanted to see what was going on.

Onward, toward the dock, and we were almost done. Superman, *a.k.a.* Rusty, got the huge but homely fossil out of the canoe into the pickup, and finally Eliz had her prize. Truly, it was a group effort. This ammonite now resides in Eliz's garden, but all of us have visiting rights!! It's not sour grapes; her ammonite is so plain that it is appropriate to leave outside because no one will steal it.

Diane Sisson gets the award for the best specimen of the trip. She has a really good eye and found an ammonite surrounded by sea urchins, and she got one like it a year ago! It is a really nice piece that we are going to feature in the update of the *Texas Cretaceous Echinoids* book.



Precious Metal Mine

by James Wark

Member of the Houston Gem & Mineral Society

Photos by Tom Wright and Phyllis George

Old computers are a precious metal mine. That's right—gold, platinum, silver—just to start with. Finishing up the rear, the other metals are palladium, rhodium, and tantalum. What is going on here? You threw away a computer. Seven pounds of gold computer boards equal one ounce of gold. Larger dinosaur mainframes have upward of one **pound** of gold boards. Let's see: 12 troy ounces times \$450 per ounce is \$5400. Not bad in my opinion for a \$1 investment.

“What are you talking about?” you say. “Am I missing something here?” you ask.

Well, you see knowledge is power. At government auctions, it is literally a gold mine giveaway. Sound easy? It is. Some of the mainframes weigh as much as 1400 lbs. The

government has fork lifts to load your purchase for you, but be careful when you try to unload it at your destination! I remember a gentleman who hooked one up to a tree and tried to drive his truck out from under it. He pulled the back half of his truck off the frame.

Okay. After safely unloading your purchase, it is time to “demanufacture” it. First of all, check out the components that are most valuable as spare parts. This includes the



Photo by Phyllis George



Photo by Tom Wright

memory, integrated circuits (ICs), CD-ROM drives, central processing units (CPUs), and hard drives. A hard drive from an IBM mainframe weighs 120 lbs. and has 80 megabytes of hard drive space. It's worth \$1000 to the right person. A reel-to-reel motor can be used as a wind-driven generator.

Let's say that no components work. What are they worth as scrap? Metals include aluminum at 50 cents a pound, copper wire at 40 cents a pound, and iron at 2 cents a pound—chump change! Platinum is approximately \$10,000 a pound. Palladium is about \$3000 a pound. You get the picture. So—how do you extract the precious metals from the computer?

Take gold for instance. One part nitric acid and three parts hydrochloric acid is aqua regia, also known as “royal water.” It literally dissolves the gold off the plastic board. After using the aqua regia to dissolve the gold, neutralize the acids. Then add water

and create a vacuum to pull the neutralized solution into a glass tube with a filter. The gold is in solution and passes through the filter. The particles caught in the filter are the other metals. Decant the gold solution into a steel pan, add sodium chloride, and heat the mixture to 400°F to dry. At this point, the mixture looks like brown dirt. Flux the entire interior of your crucible, add the gold, and flux the top of the gold. Melt it in a smelter at approximately 2100°F. Pour the results into a mold, and check out your 24 carat ingot after it cools. **Do NOT try this at home. The fumes can kill!**

A second trick of the trade is to make an amalgam of mercury and gold. When mixed together, they become a paste. Cut a potato in half, and drill a hole in one of the two potato halves.

Leave about an inch of potato on all sides and the bottom. Put the paste into the hole. Reassemble the potato and wire it together with copper wire. Put the potato and paste in aluminum foil and set it on a campfire for a few hours. The end result is clean mercury and a cube of gold. The mercury is easily retrieved by poking a hole in the potato and allowing the mercury to drain into a container. I can't take credit for this method—it was developed in 1849 during the California gold rush.

A third way is to grind the computer boards into a powder, flux the crucible, place the powder inside, fire up the smelter until the material becomes a liquid, and pour it into a mold. This method produces a "dory bar." Unless you have pure gold boards (rare), the mixture is a combination of precious metals and will have to be assayed. In this situation, plan to divert enough B.B.s from the pour to take to your assayer for analysis. They pay on the percentage of precious metals.

Another use I have found for old computers is their use on movie sets. Last year I rented some main frames to a movie called *Mr. Hell*. I was paid to move the main frames and then to set them up for a lab. Rental was by the week, and I collected a bonus for being on the crew. This has opened up a whole new business for me. Need a computer for a commercial?



Clockwise from lower left: 14K ingot, 24K ingot, two 14K rings made from computer gold.

Photo by Phyllis George

When a clock is hungry, it goes back four seconds.

New Hampshire and Maine, 2005

by Art Smith

Member of the Houston Gem & Mineral Society

Now just over one month into my New Hampshire stay, I cannot say I have done a lot with minerals or mineral collecting. Most of my time has been enjoying the lake and renewing contacts with friends and relatives. Actually the hot humid weather and associated bugs squelch any desire to tromp through the woods and dig minerals or break rocks.

My first collecting trip was to Moat Mountain with two other mineral collectors on July 4th. It was hot and humid. We drove about an hour north to the parking area of the White Mountain National Forest collecting area. You can park and collect here without a collecting permit from the rangers. It is marked, as is the trail leading 0.9 mile to the collecting area. The narrow trail going north rises and falls with the topography and is a favorite of mountain bikers, and we met many coming and going. When you reach the sign that points right (west) to the collecting area, go left and up the hill a couple of hundred feet to what Bob Janules calls the "Oliver Trench." It does not now much resemble a trench but a series of shallow diggings and "gopher" holes. There are lots of small miarolitic cavities in the granite that contain mostly white blocky microcline, dark smoky quartz crystals, very white bladed albite crystals, plus a host of rarer microminerals including titanite, fluorite, muscovite, biotite, albite, bertrandite, zircon, chlorite, gadolinite, etc. Although the quartz and feldspar crystals can be several inches across, most exposed crystals are well under half an inch. If you had turned to the right (east) you would have come to the "Eastman diggings" where many large crystals were collected in the 1960s and 1970s by Bob Eastman. Collecting additional minerals in this area is extremely difficult for the seasoned collector and almost impossible for the casual collector. However, turning over rocks and breaking large boulders can yield some surprises. We go to the Oliver diggings because we are mostly interested in the rare microminerals and are looking for possibly other minerals not already reported from the area.

Another item of interest is that the Rangers told me that the diggings are in the Albany Township. However, most of the local collectors dispute this and label their specimens as from Hales Location. They feel the collecting area is in Hale's Location and not Albany. Plotting the locations on topographic maps and taking elevations, Gene Bearss and I feel that indeed, the Eastman diggings are in Hales Location and the Oliver trench is probably in Bartlett. None of the collecting areas are in Albany except for the Government pit which is south and west of the parking area and off the road to it. Unfortunately this location has been completely reclaimed, and it is not possible to collect there any more. So if there is some confusion concerning in which township the Moat Mountain localities occur, it can be safely said that they are all in Carroll County. However, I have found that New England collectors are more concerned about in which township the occurrence occurs and often omit the county.

We have worked this area pretty hard over the last four or five years, so it was a rather

disappointing trip. However there is a small area on the way in and up one of the creeks that cross the trail that has produced some interesting microminerals, and I have a few specimens to check out once I get home and use an ultrasonic cleaner on it. One of them is a pink mineral mixed with a white mineral and green chlorite.

The next weekend Gene and I and wives drove up to the Oxford County Mineral show in Bethel, Maine. On the way up we stopped at Perham's Mineral Store in West Paris, Maine. I have been buying minerals from Perham's since the early 1960s. At that time Stanley Perham was alive, and the mineral portion of the shop was full of cabinets with many small drawers. There were many mineral treasures in them at very reasonable prices. His daughter who now owns the shop has modernized it, and now the specimens are a smaller portion of the shop and are displayed in cases. There was not a lot that I did not have, but I have my eye on one New Hampshire specimen that I may go back and get later in the summer.

The Oxford County show is located in a school gymnasium and is best described as a local show with nothing but local dealers. Unfortunately there were only a few good quality local minerals even though there have been reports on nice finds at several local pegmatites including Mount Mica. Most of these go to dealers who do more of the major shows and not the local shows. I gave the whole show a quick once over and then settled on some nice clear small quartz crystals (less than 1/2 inch long that epimorphed some bladed anhydrite crystals that have now been completely removed). They are from the Roncari quarry in East Granby, Connecticut. Also from the same locality is a one-inch hemisphere of green prehnite crystals that are partly covered by white calcite. I am hoping that a little dilute hydrochloric acid will remove the calcite and give me a first class specimen. There were a lot of cut stones from local minerals (mostly Maine) but few specimens that I did not already have or wanted.

The next Saturday was the Micromounters of New England's annual picnic at the home of Pam and Gordon Jackson to the west of here near Concord in Canteberry, NH. Since I am a member, I drove over with Gene Bearss. Unfortunately few other members showed up, but it was a pleasant day and I got to see Gordon Jackson's collection which is very nice and very well displayed and made the trip worthwhile—particularly his case of local New Hampshire minerals. On the way back we stopped at a small rock shop and looked at some minerals. I bought a serpentine frog and Gene bought a couple of small specimens. I expressed interest in a Hurricane Mountain, New Hampshire smoky quartz and a specimen from Stoneham, Maine with two pale green topaz crystals on them, but “they were not for sale at that time.”

I made a quick trip to the Hams-Weeks pegmatite which is just about 10 minutes from the cottage. I wanted to pick up some feldspar and muscovite for myself and another club member's project. The pegmatite is leased by the Maine Geological Club, and they occasionally put in a blast. The most abundant collectable mineral is a powder blue translucent to opaque beryl that can make some nice cabochons. I also like the masses of pale gray fluorapatite that are difficult to distinguish from the abundant quartz until you put a short wave ultraviolet light on them and they fluoresce a brilliant icy yellow. However, collecting fluorapatite will have to wait for a nighttime trip.

My vacation here is only about half over, so hopefully there will be some other collecting activities before the long trip back to Texas.



Lapidary Section Program

by David Hawkins

Lapidary Section Board Representative



In September the Lapidary Section will present Gerald Tobola demonstrating chasing and repoussé. His work is absolutely outstanding, and you won't want to miss this meeting. He uses a glass cutter for a liner and a small piece of wood and a pick as hand tools. The remarkable detail that he achieves is beyond anything I have seen. His pieces are on display at the Art Center downtown on Main Street. I encourage everyone to come see this demonstration and to see his work online at <http://www.geraldtobola.com/> or at <http://www.coppershadetree.com>. The photos below were copied from his Web site. Going clockwise starting at the upper right is a butterfly luminary, a green patina lamp with star, a Texas tree ornament, and a Texas wall planter.



July General Meeting Presentation

by *Scott Singleton*

1st Vice President

July's presentation was by Lesli Wood, a geomorphologist with the Bureau of Economic Geology in Austin. The focus of her work is describing deltaic systems on the surface of Mars. Her interest in Mars stems from a small grant one of her students got to study mud volcanoes on that planet. Because of this she started looking at the large quantities of vastly improved photographic information coming from several spacecraft now on or above Mars such as the Mars Global Surveyor along with its two rovers, the Opportunity and Spirit, and the European Mars Express. They each have an array of remote sensing equipment in addition to their high resolution cameras such as laser altimeters, ground penetrating radars, thermal detection units, and spectrographs.



A huge amount of data is coming from these orbiting spacecraft as well as from the rovers. Some of the largest volcanoes in the solar system are on Mars. Olympus Mons is 27 km in height. Lesli showed us pictures of another volcano that appeared to have a flow down its flank into a pond at the base. She said this flow possibly was from a crater lake that had breached. Sensors show that there is frozen water in the soil from each pole two-thirds of the way to the equator. Ice caps on the poles are mostly frozen carbon dioxide but also contain water.

Currently, water in liquid form cannot exist on Mars due to low atmospheric pressure and density. It has to exist in the frozen state or the vapor state. However, the geomorphology studies she and others have done conclude that many of the landforms visible on Mars were caused by flowing or standing water. Therefore, atmospheric pressure and density must have been much higher on Mars at some time in the distant past, perhaps three billion years ago.

Lesli showed us her study area. It was a relatively small feature called the Eberswalde Delta located in the Holder crater region. She believes that the landforms are due to a fluvial-dominated delta that flowed into a lake. The current topography of the delta is one of negative relief, i.e. the stream channels are high ridges and the surrounding delta is a depression. This is due to wind erosion and to the stream channels having sand and clay that was cemented. Spectral analysis of the delta indicates its mineralogy consists of hydrated clays and what she called "sheet silicas."

This delta is comprised of 6 distinct lobes. The lobes can be dated relative to one another based on superposition. Two types of lobes are evident: long, narrow channel-

based lobes and short, meandering channel lobes that contain broad fan deltas. Lesli believes the different morphologies are in response to fluctuations in the water level of the paleo lake.



Day Light Section

by Frances Arrighi



Sixteen members attended both the 11 July and the 18 July, 2005 meeting of the Day Light Section. At both meetings we worked on our alloy projects. Below is a table showing the various alloys we worked with and the proportions of the various metals that produce them.

Percentage of the Various Metals

Name of alloy	Silver	Copper	Gold
Reticulation Silver	80 or 82	20 or 18	—
Shibuichi	25	75	—
Shakudo	—	96	4

For reticulation, the Day Light Section used 82% silver and 18% copper.

Most of us have completed the reticulation project, so I will review it. The appropriate amounts of silver and copper for one Troy ounce were weighed and placed in separate plastic zip loc bags. All weights used the Troy system. The silver was placed in a crucible and melted with a turbo torch. The copper was added in small enough amounts so that the melted silver covered the copper shot. As soon as the copper was melted, more copper shot was added. This procedure was followed until all the copper was melted. The melt was well mixed and poured into an ingot mold. It is necessary to follow this procedure exactly because copper oxidizes so quickly that it will not melt if exposed to air. Covering the copper shot with the melted silver solves this problem.

The mold needs to be covered with carbon. This is accomplished by using a torch flame that has the air intake covered—usually by a hand.

It only takes a few minutes for the melt to harden, at which point the mold can be dismantled and the pellet recovered. It is desirable to have the pellet in a square shape, but this does not always happen.

The pellet is rolled to a gauge of 20 or 22. Always roll in the same direction. After annealing, the rolling direction can be changed. Also, anneal frequently or the piece will crack

At this point the piece is ready for reticulation. Heat the piece to a dull red. Do not melt it. The surface of the piece is coated with fine silver which has separated from the copper, and with heating, the fine silver tends to crinkle. See the accompanying picture, which is of a piece prepared by Tom Wright. Photo also by Tom Wright.



This procedure produces a decorative, textured surface on silver and can be used in a variety of ways in making jewelry.

Since the Troy system was used, I have included some equivalents and the addresses for the companies that supplied the metal shot.

31.1 grams = 1 oz Troy
1 kilogram = 32.15 oz Troy
1 kilogram = 2.68 Pounds
28.35 grams = 1 oz Avoirdupois

Gold and fine silver shot purchased from:

Houston Precious Metals, Ltd.
607 Chenevert
Houston, TX 77003
Phone: 713-228-3931

Copper shot purchased from:

United Precious Metal Refining, Inc.
2781 Townline Road
Alden, NY 14004
Phone: 800-999-3463

On 11 July the members made Shibuichi.

The club is now the proud owner of a turbo torch which is used for melting metals. This was purchased jointly by the Lapidary Section and a member of the Day Light Section.

In Our Library

by Art Smith, Librarian

I have managed to pick up a few publications to add to the library but nothing exciting to talk about here. I did get two U.S. Geological Survey Bulletins that are already bound. They may take the place of some we have that are not bound. Since binding costs between \$29 and \$40 per volume, I look hard at any well-bound books that can replace those not already bound.

The latest *Rocks and Minerals* has my New Hampshire Mineral Locality Index which may prove useful in a number of ways: to make sure all your specimens are labeled correctly, as a planning guide for which minerals and localities are in each area, or just for general knowledge on which mineral localities produce which minerals. I started the project about 15 years ago to help myself. I wish I could say that I have visited all or even most of the localities, but I have not. Much of the data for the article was obtained from published sources and from other mineral collectors, some of whom provided many of the photos. These make the article interesting and not just a list of minerals and localities.

If there is not enough soda or water in the frig, check in the back room of the library. You should find a good backup supply. If your favorite soda or brand is missing, pick up a six- or twelve-pack of what you want and reimburse yourself from the money in the can.



Mineral Section



by Steve Blyskal, Chairperson and Dean Lagerwall, Assistant Chairperson

Well, we hope you had a good summer break and are ready to once again join the Mineral Section. Meetings are on the first and third Wednesdays of each month. Due to the closeness of Labor Day to the first Wednesday in September, we will begin our regularly scheduled meetings on the third Wednesday in September.

Upcoming Meeting Topics

September 21: Social / Show & Tell / Show Preparation: Refreshments will be provided. We are going to use this meeting as a catch-up opportunity to hear about all of your summer adventures, and it will be a very informal format. We will also be taking care of any last minute show-related items. All help will be appreciated.

October 5: Social / Show Review: Refreshments will be provided. This is our opportunity to review events of the show while they are still fresh in our minds. Bring your comments on what we did right and what we can improve upon. Also bring in your show purchases and let us drool.

October 19: Azurite & Malachite: Refreshments will be provided. Sam Norwood will give a presentation on azurite and malachite. These closely related minerals are often found together with malachite as a pseudomorph after azurite. Primary malachite crystals can also be found at many locations. Formation and crystalline structure of azurite and malachite will be discussed. Specimens from classic locations as well as those from the newer finds in China will be presented.

If you have any topics or ideas you wish to have presented or would be willing to present at our Mineral Section meetings, please contact Dean at dean_lagerwall@yahoo.com or call (979) 480-9373.



Paleontology Section

July 19, 2005 Meeting

by Rick Rexroad, Chairperson



Scott Singleton presented a discussion concerning the Preservation and Creation of Colors in Petrified Wood. There are two stages of mineralization of wood. Original pore spaces are infilled with minerals (commonly SiO_2) during permineralization. As mineralization proceeds, the original fibrous matrix of the wood is also replaced by minerals, resulting in *petrification*. Three key requirements that must be met in order for petrification of wood to occur are:

- Rapid burial of the wood before natural decay processes result in destruction of the wood.
- The buried wood must not be exposed to oxygen (which also promotes decomposition of the wood)
- Long-term exposure to mineral-laden groundwater

Given these favorable conditions, the cellulose in wood attracts silica molecules which first penetrate the cell walls then fill internal cavities within the wood. Petrification can occur rapidly within the context of geologic time—mineralization of fence posts installed in the 1800s in the western U.S. has been reported, and groundwater flow through volcanic ash is currently mineralizing trees that were felled as a result of the 1980 eruption of Mt. St. Helens.

The second part of Scott's presentation dealt with the color present in petrified wood. What are the factors that contribute to the various colors present in petrified wood? Actually, it turns out that trace quantities of minerals are the typical coloring agents, and the color produced by a given mineral can vary from location to location. In petrified wood, the following colors and coloring agents are often associated with one another:

- **Green** = chromium, copper, cobalt, or native iron;
- **Brown** = goethite
- **Yellow** = limonite
- **Red and Pink** = hematite (high hematite concentrations produce red; sparse concentrations yield pink)
- **Pink** = manganese
- **Lavender** = sparse quantities of hematite
- **Purple and Blue** = manganese dioxide
- **Blue** = chromium, copper or cobalt
- **Gray** = psilomelane, magnetite, or silica
- **Tan** = silicon dioxide
- **White** = pure silica
- **Black** = carbon, iron pyrite, or manganese oxides

Upcoming Paleontology Section Events:

August 16, 2005—Review of 7th International Rudist Conference

Rick Rexroad will provide a review of the 7th International Rudist Conference. The conference is a joint production of the University of Tulsa and the University of Texas Memorial Museum and was convened at Austin, Texas in June 2005. Rudist specimens collected at several locations will be displayed, and slides of the incredible Canyon Lake outcrop of the Cretaceous Glen Rose Formation which was exposed when water from Canyon Lake was diverted through its spillway in July 2002 will be shown.

Dinosaur Valley State Park Field Trip

Glen Kuban, who has extensively studied the dinosaur footprints at Dinosaur Valley State Park near Glen Rose, Texas will lead an HGMS field trip to this paleontologically significant Cretaceous locality on the weekend of August 5–7, 2005. Glen is a recognized expert on the remarkable trace fossils preserved at this location; the water level in the river is reportedly low, so field trip participants can expect to see tracks that would not typically be seen by casual visitors to the Park and can learn the complete story of their occurrence. Recent track-related studies at the Park have identified footprints of *Acrocanthosaurus* sp., a running dinosaur that apparently had a 10-meter stride while running at up to 30 mph. Another recent finding based on the absence of

tail tracks associated with footprints is that large sauropods (such as the brontosaurus) carried their tails rather than dragging them along behind them. Please contact HGMS members Glen Kuban or Neal Immega for further details.

Whiskey Bridge Field Trip

Terry Proctor will lead a trip to the Whiskey Bridge exposure of the Eocene Stone City Formation on the Brazos River west of Bryan, Texas. This field trip is currently scheduled for November 12, 2005. Terry's friend Terry Stiles will be our host and will serve a BBQ dinner afterwards. A great time is anticipated for all participants!

Pre-Show Events

by Carol Thompson

HGMS Show Chairman

The HGMS Show Committee has been busy planning a variety of preshow activities for the benefit of all Club members.

By the time you read this, we will have already had our **annual Postcard Labeling event** at the Clubhouse on Saturday, August 13. Thanks to all of you who came out to volunteer your time to help get over 3,000 postcards ready for mailing. This year's show postcard is another glossy color postcard with a fabulous photo by our own Steve Blyskal.

On Saturday, September 10 from 9 a.m. to 4 p.m., we will have a booth at the Museum of Natural Science during the **Educator's Open House**. The Educator's Open House is put on by the entire Museum District to promote the resources available to teachers in our museums. Yes, the Houston Gem and Mineral Society is an educational resource available to our community, and it is our mission to promote this fact. By the way, it is also the reason for our tax-exempt status. All year long, the Show Committee works hard promoting the Club as well as the Show.

The largest preshow event is our **Preshow Pizza Party and Auction**. It will be held at the Clubhouse on Saturday night, September 10, starting at 5:30 p.m. Pizza will be served by 6:30 and the auction will begin about 7 p.m. The pizza and salad are free and are provided by the Show Committee. Please help this year's event be a success by bringing auction items and desserts. The purpose of this is to have a fun kick-off event prior to the Show. Last year the auction was both successful and fun, thanks to some generous donations and spirited bidding.

On the **Wednesday night before the Show** (September 21), we will load-up at the Clubhouse from about 6 to 7 or 7:30 p.m. We have only one truck to load nowadays, thanks to the generosity and planning of our treasurer, Paul McGarry, who stores our exhibit cases offsite and delivers them to the Humble Civic Center. (Thanks, Paul!).

On Setup Day (Thursday, September 22) we need help at the Humble Civic Center at about 8 a.m. to unload the U-Haul truck and cases. It is then the responsibility of each Section to set up its own booths. We also need to table dress about half of the dealer tables, so volunteers are needed for that. The dealers start arriving at 11 a.m., so with the exception of the Section booths, our tasks wind down.

Dealer Appreciation Dinner & General Meeting: Also on Thursday at 6:30 p.m., we are hosting a dinner to show our appreciation to all of our volunteers and dealers. This will be followed at 7:30 p.m. by the September General Meeting. Please note that this meeting will take the place of our regularly scheduled meeting in September.

Come join us for these events. More importantly, come join us at the Show. We're hoping to have an exciting and successful show and would like you to share in the fun!

Show Volunteer Sign-Up

by Shiara Trumble

The Show Committee has planned an exciting Show this year with the regular exhibits you already know and the addition of a large exhibit from "Dinosaur George" Blasing. As many of you are aware, it takes a large number of volunteers to have a successful Show. Last year many volunteers worked multiple shifts to staff the Show's needs. We deeply appreciate their help and devotion to the Show effort. This year's Show, as always, depends on volunteers to make the Show a success.

Listed below is an approximate number of volunteers needed per shift, per day. Please review this list and call me to volunteer your help. You can work one shift or a whole day (or days). Any time you can work we will find a place for you. We have a few volunteer jobs that involve sitting for those who cannot stand for long periods of time. If you would like additional information about any of these volunteer jobs, just give me a call at 281-463-7954 after 6 p.m. during the week or on weekends, or cell 832-236-5133, or e-mail me at <s_trumble@ev1.net>.

The shifts are Friday and Saturday 9-12, 12-3, 3-6; Sunday: 10-12.30, 12:30-2:30, 2:30-5.

Listed below are the volunteers needed per shift, per day, per area.

Area	Per Shift	3 Shifts/Day	3-Day Total
Friday, Saturday, and Sunday			
Information Booth	4	12	36
Security	4	12	36
Youth Area	3	9	27
School Daze	3	9	9
Friday only			
Scout Program	3	9	18
Saturday and Sunday only			
HMNS booth	2	6	18
Dino Dig	2	6	18
Hospitality	2	6	18
Ticket Booth, Sales	2	6	18
Entrance Ticket Takers	2	6	18
Swap Area Ticket Sales	1	3	9

Floaters	3	9	27
Volunteer Totals	31	93	252

We also need volunteers for the following:

Wednesday afternoon/evening: Loading the truck at the clubhouse

Thursday morning: Set up of tables and table dressing at the Civic Center

Sunday evening:

- Exhibit takedown and truck loading at the Civic Center
- Unloading at the Clubhouse

Those of you who helped load and set up or to take down and unload in years past remember a nice dinner for the tired participants, and this year will be no exception. (We'll be taking menu suggestions as you volunteer!) Hope to hear from you soon!

HGMS Show--Youth Education and Scouting

by Scott Singleton

Show Education and Scout Chairman

The School Daze Earth Science Field Trip on Friday and the Scout Merit Badge Program on Saturday and Sunday have grown up and are now mature. Both of those programs are successful enough that they now accept groups through reservation only and (unfortunately) must turn many applicants away after all slots are filled. Numbers-wise, these programs are moving in opposite directions: the School Daze program is being limited to fewer students per half-hour timeslot than last year, while the Scout program hopefully will be able to accept more Scouts with the addition of more counselors.

The School Daze program saw 2700 kids on Friday of last year's Show. By all accounts that was a lot of kids, and consequently the educational value of the program was perceived to diminish because of excessive crowding. Therefore, the Education Committee took the unprecedented step of reducing the maximum number of kids that would be allowed. We hope those that make it into the program will have a better educational experience, and we hope we don't get too many complaints from those who don't get in.

To help with the School Daze program, I am currently negotiating with Mad Science to help us with our chemistry station. This station is a very popular stop and was overcrowded last year. We hope that by getting more instructors and expanding the station, we can move a larger number of kids through while enhancing the quality of the experience.

Similarly, I am working with the Advancement Directors of the Flaming Arrow (Humble area) and George Strake (Woodlands and Conroe) Districts to recruit additional Geology Merit Badge counselors to work at our Show. This will enable us to expand this program while at the same time maintain or increase its quality. We've already earned a good reputation for our program, and Scouts of all flavors typically fill all of our available slots (about 450) by early September. That leaves us no choice but to turn away hundreds of requests in the weeks immediately prior to the Show.

If you are interested in helping with the School Daze program on Friday of the Show or with the Scout Merit Badge program on the weekend, please contact me at 713-664-9033 or at fossilwood@houston.rr.com. We definitely can use all available help during the show. Remember, as a 501-3c tax-exempt, educational organization, we exist (in the minds of the government) ONLY to perform educational outreach to the community in which we live. Please volunteer your time and energy to help out with these very worthwhile programs.

2005 Show Forecast

A Perfect Storm of Publicity

by Elizabeth Sheehy

2005 Show Publicity Chair

If you keep an eye on the Weather Channel during September, you're likely to see a "crawl" banner about the 2005 HGMS Show. We tried this for the first time last year with great results, and it looks like hurricane season is cooperating with us again this year.

That's just one way we're letting people know about the fantastic show we have planned. With a winning lineup of Club demonstrations, special exhibits, retail and swap area dealers—plus the special Dinosaur World Prehistoric Adventure exhibit—we're sure that if we get the news out, people will attend in record numbers.

Show ads are slated to appear in the Houston Community Newspapers, and we've sent out publicity collateral—fliers, photos, written materials—to other media outlets in hopes of reaching as many people as possible.

We're also making a special effort this year to attract television coverage from at least one local morning program. The Dinosaur World exhibit makes this year's Show particularly interesting (and photogenic!), and Publicity Committee members are hard at work trying to persuade Houston TV stations to cover the event.

Finally, we're counting on you to distribute show fliers to your friends, family, co-workers, neighbors, Sunday school class, Scout troop—you get the idea. The best time to talk up the Show is in early- to mid-September.

As Club members, we're ALL part of the Show Publicity Committee. Please be an active participant in making this year's show a success.

If you need fliers or want to help in any way (know anyone at a local TV station?), please call me at 713-668-7756 or e-mail me at esheehy@houston.rr.com.

Unofficial June HGMS Board Meeting Minutes

Date: 7 June 2005

by Sunday Bennett, Secretary

Board members present: Norm Lenz, President; Scott Singleton, 1st Vice President; Beverly Mace, 2nd Vice President; Paul McGarry, Treasurer; Sunday Bennett, Secretary; David Hawkins, Lapidary Rep.; Paula Rutledge, Faceting

Rep.; Art Smith, Mineral Rep.; John Moffitt, Paleontology Rep.; Tom Wright, Day Light Rep.; Norm Lenz, Past President

Approval of Minutes from last month. It was moved to accept the May 2005 Board Meeting Minutes. Scott Singleton had an objection to one subject. That subject was corrected via e-mail, and the Minutes were voted upon and approved.

Reports:

Shop and Clubhouse: David Hawkins/Tom Wright

- An old vacuum pump and homemade electroplater are not being used. Tom recommended the club should either auction these items off or throw them away.
- The club's floor polisher is broken and will cost \$600 to \$1,200 to replace. It was suggested that Art approach member Consie Prince and see if she will lend us hers for club use rather than the club buying or renting one. Art agreed to approach Consie.
- A new acetylene gas tank and regulator gauge are necessary for casting metal. The natural gas we have is not adequate. It was moved, seconded, and accepted that the club buy one bottle of acetylene, one bottle of oxygen, and two regulators. Tom agreed to buy these.
- Tom has agreed to restock the first aid kit.

Membership: Beverly Mace

- The club has new trifold brochures and has a copy on CD. Beverly will keep the CD for future use.

Treasurers Report: Paul McGarry

- Paul handed out the Net Worth Report for 5-31-05, a Profit and Loss Statement, and a Year to Date Profit and Loss. All reports confirmed that HGMS is on firm financial footing with \$75,000 in the bank. The auction of items donated by Sister Clements brought in an estimated \$6,900 from which we gave the Dominican Sisters half and profited by \$3,458. This is, in Paul's words, "the most the club has ever had."
- Scott Singleton asked what the club should do now that we have a healthy bank account. Paul and other members of the Board responded by saying the money is a safeguard against the future. A natural disaster (such as a hurricane) could jeopardize the show, pushing it back, possibly destroying the Humble Civic Center, forcing the club to radically scramble for an alternative and perhaps canceling the show altogether. This would bring about a financial loss that might require a cushion of cash to handle. It was decided that nothing should be done until after the show and then we will see where we stand financially. The discussion ended at that point.

Program for June: Scott Singleton

- John Fischner, owner of Dreamstar Productions, will talk about the renovations made in Paleontology exhibits in museums. He is a highly respected person in the world of Paleo exhibition. Mr. Fischner will be giving his views on what has been

done correctly and what has not. His talk will include before and after photos of exhibits. It should prove to be a lively evening.

Old Business

- Assistant Show Chair selection process continues. The latest candidate was approached but declined. The Board has been asked to think of new candidates and if need be to reconsider asking old candidates.
- It was moved and approved for the Board to proceed with the Rock Carving Class provided there are no more expenses except for stainless chucks that would not corrode when carving in a high water environment. The Board approved additional spending of \$250 for stainless chucks if required.
- A payment to the Clear Lake Gem & Mineral Society for half the proceeds generated by an auction of an old slab saw has been delayed (lack of address).
- Paul McGarry located the Conoco check. All is well there.
- The Club has filed an extension with the IRS for 2004.
- The status of the Committee Expense Form for Show Expenses was decided and left in the Publicity column.
- Paula was given a copy of the insurance policy that insures our building. She will look it over and call the company to determine what we are covered for.
- Scott sent Norm a hard copy of the 501 C Form. Norm in turn sent a copy of the 501 C Form to all Board members.
- Norm reminded Ed Clay and Mary Ann that no classes are to be scheduled for the fourth Tuesday of the month.

New Business

- New Club brochures have been printed, and we have a CD copy. Beverly will keep the CD for future use.
- Charley Fredregill has agreed to take over the assessment of Stuart Murphy's donation.
- Stuart's debt to the Mineral Club is repaid.

AFMS & SCFMS Reminders

*by Paul W. Good
Editor SCFMS Newsletter
from SCFMS Newsletter 7-8/05*

Howdee, Just thought I would remind you of some important dates coming up for our great hobby.

The American Federation/Midwest Federation combined Convention and Show will be held on August 16–21, 2005 in St. Louis, Missouri. This will be a great show and if you can make it, I'm sure you will enjoy it very much.

Don't forget our own South Central Federation show on December 02–04, 2005. The Austin Gem and Mineral Society will host this show. It will be a show to remember in December.

Remember to bring something for the Annual Silent Auction, which will be held on Saturday and Sunday, December 03 and 04, in connection with the Federation Show

HGMS History

Editor's note: I've been reviewing some of the HGMS archives and have found a couple of documents I thought HGMS members might find interesting. HGMS was around 30 years old at the time, and the Club had developed a New Member Kit which was given to new members of our Club. I think they had a very good idea. Reproduced here is the cover letter that went with the kit and a history of the first 30 years which was also included.

New Member Letter

by Steven C. Behling

HGMS Vice President in 1977

August 23, 1977

Hello New Member:

On behalf of the Houston Gem and Mineral Society, I would like to take this opportunity to welcome you into our membership and introduce you to some of the various facets of the Society. The material enclosed in the "New Member Packet" will more fully familiarize you with the particular functions, responsibilities, and benefits that our Club extends to its new members.

As should any organization, the Houston Gem and Mineral Society recognizes the importance of its new members as a precious source of challenging questions, fresh energies, and original ideas. Our society provides the framework within which interesting discussions, informative lectures, and expert instruction on gems, minerals, and fossils can be generated. After your first few visits, we hope you will find this to be true and will want to assume an active role in the Club activities. That aging proportion—the one relating one's rewards to his efforts—finds application again, and therefore, I urge you to become involved in order to experience what our Club is really like.

In recent years the Houston Gem and Mineral Society has mirrored many of the aspects of the city of Houston's tremendous growth. Our membership has more than doubled in the last ten years, we have maintained a commendably good financial status which has allowed us to contribute significantly to several college scholarship funds and to our city's museum, and we continue to enjoy the influx of new "citizens" who bring a widening background of interests into our Society. As a result of these conditions, the Houston Gem and Mineral Society has been able to encourage the creation of mini-clubs or Sections devoted to the study of one of the three major subdivisions of the hobby: mineralogy, lapidary arts, and paleontology. These Sections are smaller study groups that meet independently of the main Club to discuss topics of particular interest to their members. Each new member is encouraged to attend the various Section meetings which most correspond to his interest.

A large membership often conjures up the image of a cold, impersonal organization. But we feel the Houston Gem and Mineral Society is a warm and friendly club, evidenced by the willingness of a goodly percentage of its members who time and again shoulder the responsibilities for the operation of the Society. As our club experiences growth, so does the load of these responsibilities, and we continually need that fresh face to share in these duties. We want you to be one of those workers. We think that the quickest way to become an integral part of the Club and to build relationships with those who share your interests in the hobby is to participate in Club activities and to share the work load of the Houston Gem and Mineral Society.

And there are ample opportunities for you to be of service! Each year our club organizes one of the finest gem and mineral shows in the country. Unlike so many other clubs, this is our only fund-raising event of the year. And so a successful Show is vital to the continued well-being of our organization. This is truly a Society-wide effort, and as you can well imagine, a wide range of jobs surround the Show and workers are constantly needed. The award-winning "Backbender's Gazette," our Club newsletter, is always in need of additional staff members to assist in production.* The Houston Gem and Mineral Society has assumed the responsibility of operating a Clubhouse which houses our lapidary equipment and serves as a meeting place for many Club functions. Assistance is needed in the maintenance and improvement of this facility.

Skills of all description are needed for the operation of our Club, so I urge you to lend your special talents to the Houston Gem and Mineral Society in the way you find most rewarding. I am confident that your association with us will please you, and this is part of our responsibility to you, the new member. Our Society is built around the same interests that have brought you into our membership. And if we are to count upon our continued growth, then we must dutifully provide the type of organization that will attract a dedicated membership.

It is my hope that your interests in the gem and mineral hobby have found a home with us. Again, we welcome you.

Sincerely,



Steven C. Behling
Vice President

Monthly Meetings, 4th Tuesday, 7:30 P.M.
Garden Center, Hermann Park

** Editor's note: This was written when the BBG was printed from a stencil on a duplicating machine, and its production and assembly was managed by volunteer club members. It is now printed by Katy Printers.*

A Brief History of HGMS

April 7, 1979

by Carelton R. Reid, HGMS Historian

Editor's note: This information became a portion of the New Member Kit given to all new members in 1979. In addition the kit included the Welcome Letter, a copy of the Club Bylaws, the Membership List, Clubhouse Rules, the Club Brochure, and information about each Section.

Dear President Hammett:
Pursuant to your request for material to present to new members of our Society, I offer the following.

A Brief History of the Houston Gem & Mineral Society

Previous to World War 2, there may have been Houston Rockhounds, but as far as we know there were no Clubs or Societies.

Dr. W.V. Vietti met a few interested people about 1943, but there was no action until a meeting was arranged by Dr. Vietti & S.E. Swaim to be held at the Swaim Studio on December 3, 1948. About 26 attended. On December 7, 1948 Dr. Vietti addressed a letter to J.J. Brown, President of the State Mineral Society of Texas, reporting the second and organizing meeting of the **Houston Rock and Lapidary Society** with prospective 28 Charter Members.

A Constitution and Bylaws were written, approved, and mailed to all members on January 7, 1949.

A few new members were added in 1950; a first exhibit was given at the Main Library in 1951.

In 1953 the Southwest Federation and the Rocky Mountain Federation put on a two-day Show at the Houston Coliseum, and the HR&LS assisted and shared in the profits. (\$3200.00)

There were 40 members in 1954, and in 1955 it was voted to change the name of the Society to the "**Houston Gem & Mineral Society.**"

An exhibit was made at the Flower Show in the Garden Center in 1956.

New Bylaws for the HG&MS were written, approved, and accepted February 19, 1957.

In 1958 we placed an exhibit in the Hobby Show at the Art Museum.

The Society had an Annual Show of some kind for many years, but in 1959 the Show was held at the Shamrock-Hilton Hotel and has been held there since.

Until 1963 the members had many interests: some in Mineralogy, some in Paleontology, others in Silversmithing, Faceting, and Lapidary. A small group desiring to con-

concentrate on lapidary withdrew and organized the “Houston Lapidary Society.”

In 1969 the Society started a monthly newsletter and named it “The Backbender’s Gazette.”

In 1970 there were 160 members. Bylaws were reviewed and revised in 1977.

In 1979 we are celebrating our 30th year. On January 23rd we held our 310th meeting, and our Member Roster as of March 15 contains names of 327 Members, 13 Honorary Members, and 18 Junior Members, totaling 358.

In September of 1979 we will hold our 26th Annual Show at the Shamrock-Hilton Hotel. Nearly every year from the beginning we have held a Christmas dinner for presentation of awards, to thank outgoing Officers, and to welcome the new.

At present we have four Sections: Mineral, Paleontology, Faceting, and Lapidary each with their own officers and programs. We have a Club House at 7204 Alder St., Bellaire, Texas 77401. The machines for sawing, slabbing, and polishing are for the use of members at a small fee.

We contribute to the South Central Federation Scholarship Fund and save stamps for the Milk Fund.

We meet on the fourth Tuesday of each of the 12 months of the year at the Hermann Park Garden Center at 7:30 p.m. at which we conduct a business meeting followed by an interesting program with knowledgeable speakers often with slides or movies.

We have as officers a President, Vice-President, Secretary, and Treasurer and a Board of Directors of five members. The monthly issue of the “Backbender’s Gazette” you will receive lists the several Sections.

Please let me know if you have any additions or if some deletions are desired.

Yours Truly,



P.S. Perhaps we should add that additional info is available in the Complete History in our library.

Agates

Author unknown

Via Gem Cutters News 05/05, Quarry Quips, 4/2000, Breccia 08/05

A process which took nature hundreds, thousands, or perhaps millions of years to complete cannot be covered in a few words, but let’s take a simplified look at their creation.

First came the raw materials: silica (silicon dioxide (SiO₂)). This compound is a combination of silicon and oxygen and is a major rock builder in the earth’s crust, being

second only to the compound water in abundance. With silica so common, gems should be everywhere, but their formation depended upon conditions, and this is where our story begins.

About 400 million years ago the Pacific Northwest began to rise from the sea. In a succession of volcanic upheavals, a landmass rich in silica was created. Occasionally these lavas cooled so rapidly they formed a volcanic glass : obsidian. Generally however, volcanic masses cooled slowly, tended to crystallize and were porous, eventually breaking down to release minute particles of silica. This free silica in turn, was dissolved by acids in percolating ground water, then transported and finally deposited as concentrated liquids in subsurface cavities. Experts differ on how the liquids eventually became solids; however the following basic silica forms were the result.

Crystalline: Silica deposited in obvious crystal forms and known as quartz or rock crystal.

Opaline: Silica form similar to chalcedony but totally noncrystalline, more porous and containing small added amounts of free water (3 to 14 percent) held within its structure rather than its chemistry. Gem opals are of this form.

Cryptocrystalline: Silica deposits of microscopically fine-grained, almost noncrystalline masses known as chalcedony. Chalcedony characterizes agate and jasper.

Each of the silica forms occurred within cavities of previously formed rock and are termed secondary deposits. How each formed however, depended largely on where it formed.

Individual gemstones, when found in gravel bars or loose soil, are usually a long way from their birthplace, having rolled and tumbled with the eroding forces. Generally the surface landmass of their origin has long since crumbled and vanished. Some gems, however, are still embedded where they developed and show that each basic type resulted from its own characteristic surroundings.

Agate: The result of chalcedony filling empty gas pockets or cracks in otherwise solid rock, forming as nodules or seams. Since only limited amounts of foreign materials were included, the stone is fairly pure and ranges from clear to translucent when held to the light. Not all agates formed this way, with the two exceptions being thunder eggs and fossils.

Recognizing and Testing Agate: The mineral world has many look-alikes, but not all have gemstone quality. To avoid filling your pockets with excess rock, three simple tests can be made.

Luster: Look for even-textured, nongranular material ranging from clear (glasslike) through translucent (transmits and diffuses light) to opaque (blocking out light).

Rough specimens may have a glassy, waxy, pearly, or even dull appearance and can be better judged when wet. Agate: Waxy, clear to near opaque. Jasper: Waxy to dull and opaque. Opal: Pear-like, clear to opaque.

Fracture: Broken edges are usually conchoidal (cupped, shell-like fractures as on a chunk of glass). Water-worn pebbles often show curved crescent-like surface markings. An exception to this is opal, which tends to be brittle and more angular in fracture.

Hardness: Part of the reason these are termed gemstones is in their ability to polish well and withstand abrasion. They rank between 7 to 7.5 on the Mohs hardness scale.

Probably no gemstone is known in a greater variety of colors and patterns than agates. And like fingerprints, no two of these are ever exactly the same. Recurring agate characteristics however, have been given appropriate names such as: white or milk, turtle-back, coated, snakeskin, blue, amethystine, carnelian, sard, polka dot, sunset, enhydro or water agate, fortification, iris or rainbow agate, banded, sardonyx, grape, eye or orbicular agate, tube or pipe, angel wing, dendritic, moss, plume, flower, sagenite, and ellensberg blue.

Tips & Hints

Cleaning Fragile Crystal: *from The Tumbler, 7/04, via SCFMS Newsletter 7-8/05 and others*
To clean fragile or hard-to-reach recesses in mineral specimens, try CREW, a product of Johnson's Wax. Spray the foam on the rock. Let it set a minute, then rinse with water. It is safe on all materials including calcite and fluorite.

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ShowTime 2005

August 19-21	Bossier City, LA	Ark-La-Tex Gem & Mineral Society Bossier Civic Center, 620 Benton Rd. Charlie Johns (318) 687-4929
August 27-28	Arlington, TX	Texas School of Earth Sciences (formerly Arlington Gem & Mineral Club) University of Texas, Arlington www.agmclub.org
September 3-4	Jasper, TX	Pine Country Gem & Mineral Society VFW Building 7 miles west of Jasper
September 17-18	Farmers Branch, TX	Pleasant Oaks Gem & Mineral Club Ellison Miles Geotechnology Institute 3939 Valley View Lane
September 23-25	Humble, TX	Houston Gem & Mineral Society Humble Civic Center 8233 Will Clayton Parkway e-mail: show@hgms.org
September 24-25	Denison, TX	Texoma Rockhounds Denison Senior Center, 531 Chestnut St. Lewellyn Lee: (903) 893-6420
October 1-2	Farmers Branch, TX	Pleasant Oaks Gem & Mineral Club Ellison Miles Geotechnology Institute 3939 Valley View Lane
October 1-2	Jacksonville, AK	Central Arkansas Gem, Mineral & Geology Soc Jacksonville Community Center Main Street, Hwy. 67/167 Exit 9 Ms.PatKissire (501) 821-2346
October 8-9	Temple, TX	Tri-City Gem & Mineral Society Mayborn Civic & Convention Center 3303 N. 3rd St.; Robert Coufal (254)773-9624
October 21-23	Victoria, TX	Victoria Gem & Mineral Society Victoria Community Center
October 21-23	Glen Rose, TX	Austin Paleontological Society Glen Rose Convention Center
December 2-4	Austin, TX	SCFMS Conv. and Austin G&M Society Show Palmer Events Center

2005		SEPTEMBER					2005
Sun	Mon	Tues	Wed	Thu	Fri	Sat	
				1	2	3 10-12 Youth Section 11-3 Shop Open	
4	5 Labor Day	6 7:30 Board Meeting	7	8	9	10 11-3 Shop Open	
11	12 7:30 Day Light Section	13 7:30 Show Comm	14 7:30 Faceting Section	15	16	17 10-12 Youth Section 11-3 Shop Open	
18	19 7:30 Lapidary Section	20 7:30 Paleo Section	21 7:30 Mineral Section	22 Show Setup General Meeting	23 HGMS Show Kids' Day	24 HGMS Show	
25 HGMS Show	26	27 No General Meeting this date	28	29	30		

2005		OCTOBER					2005
Sun	Mon	Tues	Wed	Thu	Fri	Sat	
						1 10-12 Youth Section 11-3 Shop Open	
2	3	4 7:30 Board Meeting	5 7:30 Mineral Section	6	7	8 11-3 Shop Open	
9	10 7:30 Day Light Section	11 7:30 Show Comm	12 7:30 Faceting Section	13	14	15 10-12 Youth Section 11-3 Shop Open	
16	17 7:30 Lapidary Section	18 7:30 Paleo Section	19 7:30 Mineral Section	20	21	22 11-3 Shop Open	
23 30	24 Halloween 31	25 7:30 General Meeting	26	27	28	29 11-3 Shop Open	

**The BACKBENDER'S
GAZETTE**
*The Newsletter of the Houston
Gem & Mineral Society*

10805 BROOKLET
HOUSTON, TEXAS 77099
(281) 530-0942



SCFMS

- 1998 - 1st (Large)
- 2000 - 1st (Large)
- 2003 - 1st (Large)



AFMS

- 1998 - 2nd (Large)
- 2004 - 3rd (Large)

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