



The **BACKBENDER'S GAZETTE**

**The Newsletter of the
Houston Gem & Mineral Society**

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February 2015



President's Message

by Raymond Kizer

New Year's resolutions—did you make one? Mine was to do the things I have been putting off for no real reason. So after procrastinating for over a year, I set out to accomplish some of those “I’ll get to it soon...” items on my list.

This is why—on a bright sunny day early in January—I finally visited the Sugar Land annex of the Houston Museum of Natural Science. I don’t know why I took so long to go there as the new museum is virtually in my backyard. For me, the magic draw was the Museum’s newest temporary exhibit, “The Crystals of India.” The exhibit runs until summer and features over forty incredible examples of “Trap Rock” crystals from the Deccan Trap region in India. This region covers an area of 500,000 square kilometers which contains mineral-bearing basalts with well-developed crystals in amygdaloidal cavities.



Continued on page 4

Upcoming General Meeting Programs

by Paul Brandes

February 24, 2015: **Fluorescent Minerals—Some How's and Why's.** This presentation by Aaron Rever will focus on all aspects of fluorescent minerals, including the science of why minerals fluoresce, the history of collecting fluorescent minerals, and several of the worldwide locations historically famous for their collecting sites. Such locations include Franklin and Sterling Hill, New Jersey; Mt. St. Hilaire, Quebec; as well as Langesundsfjord, Norway; Langban, Sweden; and Illimassaq, Greenland. A short lesson on the chemistry and physics of fluorescence will be discussed, including activators and quenchers of fluorescence in minerals, as well as the intrinsic fluorescence present in some minerals. In addition, there will be a brief discussion of the evolution of ultraviolet lamps from historic to modern-day. Following the presentation, there will be a Show and Tell session of various specimens from Aaron's personal collection.

Contents

President’s Message 1

Upcoming General Meeting Programs 1

Purpose of HGMS 3

Legendary Leadville, Colorado 5

Mineral Section Programs 11

Slab Happy 2—OLD saws and pulleys 12

Ramblings of a Retired Mind 13

Those Who Helped Make Our Club What It Is Today 14

Day Light Section 15

General Meeting Minutes 16

HGMS Board of Director’s Meeting 16

AFMS: Junior Activities—Children Need Not Apply?? 21

Bench Tips--Take Better Photos 22

Bench Tips--Silver Discoloration 23

Show Time 2015 26

Calendars 27

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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, 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 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 at 7:30. The HGMS Web site address is <http://www.hgms.org>.

President continued from page 1

Basalts in the region have been quarried for centuries for precious gemstones and building materials. It wasn't until the globalization of mineral collecting gained prominence in the 1970s that these non-gem Trap Rock crystals were sought on a commercial level. Before that time, they were just overlooked as non-ideal building materials and given no intrinsic value.

The exquisite minerals featured in this exhibit formed in amygdaloidal cavities in the basalt. They have been painstakingly extracted and prepared to highlight nature's artful designs. The specimens on view display some beautiful and unusual crystal habits not common to U.S. collectors. You see pinkish "Bowties" of Stilbite, thin radiating crystals of Mesolite or the even finer crystal "Puff Balls" of Okenite, semi-cubic looking Apophyllite, and Calcites or impressive cobalt blue balls of Cavansite. This exhibit displays some very impressive examples from the region and is well worth the trip. Houston Museum of Natural Science members get in free.

The Crystals of India exhibit is not the only reason to go. The museum also houses a large collection of amethyst and citrine crystal cathedrals from Brazil, plus some extra-large mineral specimens including a gigantic aquamarine and topaz from Brazil. One wall is full of polished and accurately labeled rounds of petrified wood from around the U.S. A gallery of worldwide frog species is in well executed terrarium settings. You'll see two fish tanks—one with red-bellied piranha from the Amazon, the other with saltwater coral reef species. There are classrooms and science activities for the kids. A small exhibit hall houses dinosaurs and fossils, including some magnificent Crinoid and Trilobite specimens. A wall display maps the planets of our galaxy and some Hubble space telescope images of other distant gas nebulas. The museum has a small "inflatable" planetarium which looks like a black igloo—and of course, the mandatory gift shop.

The Museum of Natural Science Sugar Land is located approximately one mile northwest of HWY 59 at 13016 University Boulevard in Sugar Land Texas. Give it a visit and check it off your to do list.



Legendary Leadville, Colorado

by Dr. Nathalie Brandes

Professor of Geosciences

Member of the Houston Gem & Mineral Society

The rocks around Leadville, Colorado host one of the largest lead-zinc-silver deposits in the world (Wallace, 1993). For over 130 years, through economic disruptions, labor issues, volatile metal markets, and the inclement weather of the high altitude, mines extracted ore from these rich deposits.



Leadville, Colorado in November 2013. Photo by P. Brandes

Leadville is located on the west flank of the Mosquito Range at an elevation of 3090 meters (10,150 feet). It is approximately 150 kilometers (96 miles) southwest of Denver (Maslyn, 1996). The city can be reached by US 24, but at one time three railways served the city as well (Blair, 1980). The terrain is mountainous with many areas forested with ponderosa pine and Douglas fir (Wallace, 1993).

The oldest rocks in the Leadville area are Proterozoic (1.7 Ga) granite that is overlain by Late Cambrian to Pennsylvanian marine sediments. The sediments include limestone, dolomite, sandstone, and quartzite that was uplifted and eroded in the Pennsylvanian resulting in some karst development in the carbonate rocks (Wallace, 1993; Maslyn, 1996). During the Laramide Orogeny the area was again uplifted, and several granodiorite to monzogranitic intrusions were emplaced (Bookstrom, 1990; Wallace, 1993). Another episode of

intrusive activity affected the region around 43 to 39 Ma that resulted in ore formation. Intrusions were mostly sills, but also some dykes and stocks (Wireman et al., 2006). During the Tertiary, Rio Grande Rift extension caused the development of the Arkansas graben as well as regional doming that helped bring ores to the surface (Wallace, 1993). The ore deposits and host rocks are cut by numerous faults, both normal and reverse, with displacement of 10s to 100s of meters (Tweto, 1960; Tweto, 1968; Thompson and Arehart, 1990). During the Quaternary, the landscape was modified by glacial processes (Behre, 1953; Tweto, 1974).



The Pyrenees Mine was a major lead producer in the area. Photo by P. Brandes

There are three basic ore deposit types in Leadville—primary, secondary, and placer. Of these, the most straightforward are the placers, which were formed by erosion of bedrock deposits in the Quaternary. Characterizing the primary deposits of the Leadville area is complex and confusing. Still today, there is debate concerning the processes of formation. Some investigators (Callahan, 1964; DeVoto, 1983) have considered the deposits to be a variety of Mississippi Valley-type deposit. The mineral composition and temperature of formation, however, is different and thus most geologists consider them to be a separate type (Ohle, 1991). Thompson and Arehart (1990) subdivide the primary ore deposits into three types: magnetite-serpentinite near the Breece Hill Stock, the Sherman-type barite-silver carbonate hosted, and the Leadville-type silver-lead-zinc carbonate hosted. The magnetite-serpentinite deposits were formed within 200 meters of the stock during its emplacement and were locally enriched in gold and silver (Wallace, 1993).

The Sherman-type deposits fill palaeokarst features in the Leadville Dolomite (Behre, 1953; Maslyn, 1996). The Sherman-type deposits fill palaeokarst features in the Leadville Dolomite (Behre, 1953; Maslyn, 1996). The timing of mineralization of these deposits is debated. Landis and Tschauder (1990) suggest a Pennsylvanian age, Symons and Lewchuk (2000) report a Permian age, while others support Late Cretaceous to early Tertiary timing (Johansing and Thompson, 1990).

The largest ore deposits of the area are the Leadville-type replacement, or manto, ores. The ascent of mineralizing fluids was impeded by impermeable rocks, and the fluids were forced into the highly reactive carbonate sedimentary rocks (Wallace, 1993). The magmatic source of these fluids is not exposed but is thought to be somewhere beneath Breece Hill (Thompson and Arehart, 1990; Thompson and Beaty, 1990). Earlier investigators called these stratabound ore bodies developed at impermeable boundaries "contacts" and identified as many as eleven of them (Emmons, 1927; Ohle, 1991).

The Leadville-type ore bodies have irregular dimensions, some as thick as 40 meters (125 feet), as long as 1000 meters (3300 feet), and as wide as 130 meters (500 feet) (Ohle, 1991). Pyrite, galena, and sphalerite are the most common sulphide minerals in the replacement deposits. Chalcopyrite, tennantite-tetrahedrite, magnetite, and other minor minerals are also present (Emmons et al., 1927; Thompson and Arehart, 1990).



California Gulch, site of the first gold discovery near Leadville.

Photo by. P. Brandes

Silver is found in acanthite and argentiferous tetrahedrite. Gold is native (Tweto, 1968). Gangue minerals include manganosiderite and quartz (Wallace, 1993). Secondary ores were created through supergene enrichment when

uplift and erosion related to the Rio Grande Rift lowered the water table and allowed the sulphide ores near the surface to be oxidized. In some areas, oxidation reached as deep as 300 meters (Tweto, 1968).

Mining in Leadville experienced several boom and bust cycles. The earliest known mineral exploration in the area dates to 1859, when prospectors were panning for gold in the region. The discovery of the district is attributed to Abe Lee—a member of a larger prospecting group—who found a rich pan of gold in April of 1860. According to legend, he stated, “I’ve just got California in this here pan!” The statement gave California Gulch its name. By 1861, the post office of Oro City was established in California Gulch. By 1865, the placer gold was mostly mined out (Blair 1980).

In 1874, cerrucite outcrops—which proved to be argentiferous—were discovered, and the next mining boom began (Blair, 1980; Wallace, 1993). By 1877, Oro City was no more and the post office was established at Leadville, which was incorporated as a town a year later. By 1879, about 20,000 people lived in and around Leadville. It was at this time that the city experienced its most remarkable days of mining. Some assays from the Robert E. Lee mine were as high as 10306 ounces/tonne silver (Blair, 1980). This boom lasted for several years until—like many western American mining districts—the repeal of the Sherman Silver Purchase Act and the following Panic of 1893 were major blows to the economy (Blair, 1980; Wallace, 1993).



The Matchless Mine, one of H.A.W Tabor's properties. Photo by P. Brandes.

Two years later, the Western Federation of Miners arrived and in 1896 called a strike. Unfortunately, the strike became violent, forcing the governor of Colorado to order the militia to the mining district to keep the peace. During this time, the mines were closed and allowed to flood. When the strike ended in 1897, many mines did not reopen due to the cost of dewatering them.

In 1899, rich zinc ores were discovered, which brought new life to the district that lasted until the Great Depression (Ohle, 1991; Blair, 1980). Although the glory days were over, mining continued in the area until 1998, when the Black Cloud Mine, a lead-zinc producer, closed (Wireman et al., 2006).

Leadville boasts a history of colorful residents. In the early 1880s, gunfighter Doc Holliday dealt faro in local saloons. The famous Guggenheim family became wealthy in the smelting industry. H.A.W. Tabor made his fortune in the Leadville mines. His fame at the center of an infamous, bigamous love triangle captivated the American public enough to become the topic of an opera. Molly Brown, who survived the sinking of the *Titanic* and also became the subject of film and musical, was the wife of John J. Brown, superintendent of the Ibex Mine (Blair, 1980).

Today mining has ceased in the Leadville District, but is still very visible. Over the course of the district's history, over 2800 patented mine claims were filed. The surrounding area is marked with over 1600 prospects, 1300 shafts, and 155 adits (Wireman et al., 2006). The city itself offers a fine example of western American Victorian architecture. Walking the streets of the city is a journey into the history of a legendary mining locality.

[N.N. Brandes, 2013]

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Mineral Section Programs

by Paul Brandes

January 21, 2015—Minerals of Western Europe: In preparation for the Tucson Gem and Mineral Show in February, this evening's presentation will focus on the minerals and mining localities of Western Europe in honor of this year's Tucson show theme "Minerals of Western Europe." Section Members will discuss such items as what localities in the different countries hold the best minerals, some of the more common and museum-quality minerals that can be found, a little on the formation of these minerals, and any members who personally **have** collected at these locations. All members are encouraged to bring and display specimens from their collection. Refreshments will be provided.

February 4, 2015—DVD of attendees' choice: Due to the participation of many Mineral Section members in Tucson, those not able to attend can choose a DVD from the Library to view (the tentative choice is to continue with another part of the 2014 "What's Hot in Tucson") or attendees can discuss their possible collecting plans for the spring/summer. Refreshments will be provided.

Slab Happy 2—OLD saws and pulleys

by Neal Immega

HGMS Shop Supervisor

Problem: A worn-out drive pulley can cause your OLD power feed saw to jam a rock so tightly into the blade that the blade stops spinning—but not the motor. The motor then burns the belt at one spot. The cause is a subtle problem, but one that is easy to detect and cure.

Detection: You only need to shine a flashlight on the motor pulley and see if the V-belt has polished the bottom of the slot. The V-belt is supposed to engage only the sides of the pulley, and if the bottom is polished—either the V-belt is too small, or the V-belt has worn the pulley. The usual solution is to replace the pulley with a cast iron pulley and also to replace the belt.

Let me provide some details that I have glossed over in the previous paragraph. All the saws (11 of them) in the Houston Gem and Mineral Society (HGMS) shop use A size belts that are ½-inch wide at the top. The industrial size V-belts (B size) are 5/8 inch at the top and are not often used, but we do have an amazing assortment of both size belts and pulleys in our parts bins (i.e. junk boxes). Try to diagnose the problem rather than just putting on a B size—you will see why.

One of our saws (Highland Park 20") is so old that I first used it in 1972 as a geologist summer hire at the Mobil Field Research Lab near Dallas. I next encountered it in our shop and found that it was the very same one! The problem turns out to be that the manufacturer turned the motor pulley out of aluminum, and over the years and through many belt changes, the belt wore the original V shape into a square, causing the belt to run on the bottom of the slot, polishing it. The belt would then slip because the sides of the belt are what transmit the torque of the motor. See the photo below. The slot next to it drives the power feed, and though it is not worn out, the belt has cut a notch. The power feed would jam the rock into the blade because the V-belt driving the saw blade would slip on the pulley while the power feed continued to advance. For comparison, I include a picture of a new die cast pulley showing the proper shape of a slot with a U-shaped bottom. Two of our very old saws with the brand name of Dr. Rock (built by a real Ph.D. Shell Oil engineer by the name of Rock) had the same problem with die cast pulleys.

Solution: Replace the pulley with a new cast iron pulley from Surpluscenter.com. While you are at it, replace the belt with a more flexible notched V-belt (AX series) from the same vendor. I am hoping that a cast iron pulley will wear more slowly than a softer die cast one—probably will last

Get last-minute news about club events by sending a note to Jim Kendall at kendal_ja@yahoo.com

longer than I will, anyway. If you just replace the belt with the larger B size, it is the wrong shape to engage the eroded and now square shape of the motor pulley, and it will be too large to fully engage the sides of the upper pulley—which drives the saw blade. The upper pulley shows no wear at all even though it is die cast. I expect that previous maintenance people just kept tightening the belt and did not want the hassle of replacing the pulley.

Capacitor: As a precaution while you have the saw under repair, test or replace the motor capacitor with one with the same MFD number but with a high voltage rating. The capacitor on the saw tested good after 50+ years, but I replaced it anyway. The capacitor had a 370 volt rating on a 110 volt motor. I will write a whole paper on capacitors on shop motors.



Pulley Wear Patterns: A: new , B: a step is worn into the pulley, C: belt has worn the slot square and polished the bottom.

Ramblings of a Retired Mind

from Internet, via Mountain Gem 4/2013, via The Roadrunner 8/2014

I was thinking about how a status symbol of today is those cell phones that everyone has clipped onto their belt or purse. I can't afford one. So, I'm wearing my garage door opener.

I also made a cover for my hearing aid and now I have what they call blue teeth, I think.

I was thinking about old age and decided that old age is when you still have something on the ball, but you are just too tired to bounce it.

I thought about making a fitness movie for folks my age and calling it "Pumping Rust."

I've gotten that dreaded furniture disease. That's when your chest is falling into your drawers!

When people see a cat's litter box, they always say, 'Oh, have you got a cat?' Just once, I want to say, "No, it's for company"!

Employment application blanks always ask who is to be notified in case of an emergency. I think you should write, "A Good Doctor"!

I was thinking about how people seem to read the Bible a whole lot more as they get older. Then, it dawned on me. They were cramming for their finals.

Those Who Helped Make Our Club What It Is Today

by Gary Anderson

The tributes for Tom Wright in the January 2015 BBG made me start thinking of the many HGMS members who have gone before us and who all helped make HGMS the great club it is.

We all remember Paul McGarry—he built the trailers for the show cases and for the fluorescent booth display, and he was treasurer of the club for many years. He owned “Tubes Inc.,” which is a multi-million dollar tube manufacturing and sales company.

The fellow who co-signed the first building buy—along with Tom Wright and Yvonne Dobson—was Bill Cox. He owned a restaurant supply and lent the club an International 2½ ton truck which I drove a few times to the shows.

There are so many folks who made a great impact in the history of the club. There was Derry Gartig, who was the first editor of the Backbender’s Gazette (I think), followed by Ruth Hammett. She and her husband John were good friends of Tom Wright. And the list goes on—Bill and Edna Cox, treasurer before Derry Gartig.

Lamont & Anita Cole—Wade Callendar—Cliff Condit—Tom & Ruth Dehart (first shop foreman of old clubhouse, one slab saw)—Harold & Yvonne Dobson—John & Barbara Emerson—Werner Dannenbaum—Calvin Coplen—Bill & Jeri Butler (Bill was HGMS President in 1993 and 1994.)

Hugh & Louise Bohanon wired a lot of the clubhouse—Francis Arrighi—James & Ellen Box—Robert Garski—Jay & Cindy Glenney—Vi Hazzard—Victor Helm—Jeff Hill—Raul Hinz—Turner Ivey—Sister Clement Johnson (great faceter and toured the western US in a trailer after she retired)

Dr. Lester Karotkin heart surgeon—Paul Koons great faceter—Hank & Beryl McCleary geologist from Jeffrey City area of Wyoming—Ben Noble (Show Chairman in 1990)—Albert & Olga Police (donated stainless steel sink in shop)—Jerry Pote—Charles Spitzfaden—Frank & Jeanne Thomas (rewound motors for the shop)—Janelle Walker (Beverly Mace’s predecessor)—Jack Wall—Delpfine Welch (Ph.D. geologist)

And the list goes on and on as the club has been around since the early fifties. I am still carrying around my official HGMS membership card issued to me by Derry Gartig in the seventies.

Day Light Section

by Nancy Fischer

The Day Light Section has big news. Their monthly meeting—traditionally on the second Monday of the month—will change **IN APRIL** to the **first Wednesday**. This will not be an April Fool's joke, but Wednesday, April 1, 2015 will be the first meeting with the new schedule change.

Schedule of projects

Monday, February 9, 2015—Copper Tube Bracelet

We will bend tubing using a tube bender. This can then be cut (sliced) to allow placement of stones, beads, pearls, etc. You will use the tube bender, the flex shaft with a saw blade, assorted files, and other club tools. This is a work in progress—bent, sliced, ready to fill, file, and finish.



Monday, March 9, 2014—Jasper or agate slab bead

Make a jasper or agate slab bead—drawing coming soon. Check the Web site. This will take two meetings. In the first meeting, we will construct the rough bead using saws and grinders in the shop. Slabs will be available, or you can bring your own 3" X 4" X ¼" slab. We will cut 4 smaller slabs, smooth them, and glue them together.

Wednesday, April 1, 2015 (no kidding)

Shape and polish the bead. We will be using files and the club's grinders and polishers.

Shop fees **DO NOT** apply for Day Light members during Day Light meeting hours.

WHAT WE CAN'T
DO ALONE
WE CAN DO
TOGETHER



General Meeting Minutes

12-13-2014

by Nancy English, HGMS Secretary

At the start of the Holiday Party, an informal General Meeting was called to order by President Ray Kizer at 6:00 p.m. Karen Burns moved to accept the November General Meeting minutes. Phyllis George seconded and the motion passed.

President Ray Kizer announced that the 2015 Show dates are set for September 24–27, 2015. And he described the plans for the auction that would begin at 7:00.

For the last order of business, Ray asked the audience for a moment of silence to remember Tom Wright.

The meeting was adjourned. Dinner commenced. The auction began at 7:00.

HGMS Board of Director's Meeting

January 6, 2015

by Nancy English

X	President - Ray Kizer	X	Beading Rep - Jillynn Hales
X	1st Vice President - Paul Brandes	X	Daylight Rep - Mary Ann Mitscherling
X	2nd Vice President - Beverly Mace		Faceting Rep - Gary Tober
	Treasurer - Rodney Linehan	X	Lapidary Rep - Phyllis George
X	Secretary - Nancy English	X	Mineral Rep - Mike Sommers
X	Archeology Rep - Garth Clark	X	Paleontology Rep - Mike Dawkins

Call to Order: The meeting was called to order at 7:39 p.m. with a quorum of NINE members plus the President present. President Ray Kizer presided over the meeting. Nonvoting members Michele Marsel, Carrie Hart, Tamara Ritchie attended the meeting. Welcome to Mike Sommers, he will be representing the Mineral Section. This is his first year on the Board of Directors.

Approval of Previous Month Board Minutes: Jillynn Hales moved and Paul Brandes seconded that the minutes of the December 2014 Board Meeting be accepted as published in the January 2015 BBG. The motion passed unanimously.

President's Comments: It was brought to my attention that on Monday January 5, there was an armed robbery just down the street at 10403 Rockley in the Dunn Southwest business complex. The manager and employees of Southwest Moving Company were robbed at 11:00 am by two men dressed in black who entered into their warehouse and tied them up. They took, \$500.00

in cash, wallets and purses and all of the managers' truck keys. They did not hit them or threaten them verbally, but they did have guns. The manager said that he does not think it was anyone who had been in his place before and that the men acted nervous and excited. His opinion is that they were not experienced. I bring this up first to let everyone know it happened in the middle of the day and just down the road. So please, be very aware of your surroundings any time you are entering and leaving the clubhouse. **And please pull the door shut when entering or leaving.**

I asked the company next door to HGMS if members could use their parking lot for the Holiday Party. The owner agreed to allow us to use his parking places after 5:00 p.m. on weekdays and on Saturday evenings, and on Sundays when his business is closed. **DO NOT PARK** in their lot during their business hours.

Treasurer's Report: Rodney Linehan e-mailed financials to all Board members in advance of the meeting.

Show Committee: Michele Marsel reported that the 2014 Show profit is \$13,315. Board members congratulated Michele for coming in right on budget. (\$15.00 more profit than planned). Ray Kizer previously announced the 2015 show dates are September 24 through September 27, 2015. Therefore our 2015 Show planning is already a month behind. See New Business for 2015 Show planning.

D Office, Committee, and Section Report

Archeology Section: The next Archeology Section meeting is Thursday, February 6 at 7:30 p.m. Garth Clark will present **Mysteries of the Neolithic Cultures of the Upper Levant**. That is an area in the Middle East. There will be no meeting on January 8, 2015. The December meeting featured speakers Bob and Nancy Moore talking on the **Hidden Treasures of Rome and Naples, Italy**.

Beading Section: Jillynn Hales reported that the December meeting was held Saturday, December 13 at 1:30 p.m. They finished beading the ornaments. After their meeting, the members helped set up for our Christmas party that evening. The next meeting is on January 17, 2015, 1:30. They will be making a Garden Necklace.

Day Light Section: Mary Ann Mitscherling reported that the next meeting is January 12, 2015. The program will include making a bracelet from copper tubing and creating aluminum marking pencils from scrap materials. Materials and tools will be provided. The two activities will run concurrently since equipment is limited, depending on the number of program participants. Programs for 2015 will be discussed and scheduled.

In January, February and March, the Section will have open shop hours on

the second Monday of the month from 10:00 a.m. until 3:00 p.m. (with regular fees applying). Their program would begin at 3 p.m. The Day Light Section is considering moving their monthly meeting to the second Wednesday of the month starting in April.

Monday, December 8 was the Section Holiday Party, starting at 11:00 a.m. The food was terrific; fun party.

Education Committee: Carrie Hart reported that the Faceting class being taught January 11 and 18, 2015 is full. It is two Sunday afternoons, two 4-hour training sessions from 1:00 to 5:00 p.m. The Gemstone Faceting Class 101 class registration fee is \$80 for both sessions, payable in advance. (Total of 8 class hours).

Carolyn Promisel expressed an interest in teaching another Viking Knit class. Charlie Fredregill mentioned to Michele Marsel that he is considering teaching a Master Lost Wax Casting class, in order train more people to do casting demonstrations and to teach casting in the future. Carrie will contact both of them to discuss the classes. Ray Kizer encouraged Board members to talk to other club members about teaching classes.

Gemstones and Faceting Section: December 10 at 6:30 p.m. was the Section's Christmas party: food and fun. The next meeting is on Wednesday January 14, 2015. The program will be an Overall Review of Polishing and Sequencing.

Lapidary and Silversmithing Section: Phyllis George reported that the next meeting is January 19, 2015. It will be an open shop for the Section. The meeting will focus on showing new members the steps for making cabochons and on coaching experienced members with lapidary problems they might be having. The attendees will make suggestions for upcoming meeting programs. There was no meeting on December 15, 2014.

Mineral Section: Meetings will pick up again on January 7 and 21, 2015. On January 7, 2015, The DVD summary **What's Hot in Tucson, 2014** will get us in the mood for the Tucson shows. Narrated by Dave Wilber and Bob Jones, this DVD brings you the Tucson experience without the travel or expenses. For those who saw last year's DVD, you know the quality of this program is quite impressive (and the minerals aren't bad either)! Refreshments will be provided.

January 21, 2015: The program **Minerals of Western Europe** will prepare viewers for the Tucson Gem and Mineral Show in February. This evening's presentation will focus on the minerals and mining localities of Western Europe in honor of this year's Tucson show theme "Minerals of Western Europe. All members are encouraged to bring and display specimens from their collection. Refreshments will be provided.

February 4, 2015: DVD of attendees' choice

At the meeting December 3, 2014, Mineral Section presentation What's Hot in Sainte-Marie, 2014, members saw the DVD featuring the world-renowned Sainte-Marie-aux-Mines Gem and Mineral Show which occurred June 26–29, 2014. There was no meeting on December 17, at 7:30 p.m. The Section Holiday party was on December 21, 2014.

Paleo Section: Mike Dawkins reported that the first meeting in 2015 will be Tuesday, January 20, 2015 at 7:30, program to be announced.

On December 16, 2014, members used the shop to create Christmas ornaments from red slate under the tutelage of Neal Immega. The Paleo holiday party will be held in February.

Publicity Committee: Tamara Ritchie made a list of upcoming Gem-related shows. She will contact organizers of the April Intergem show at NRG Centre. Historically, the show gives HGMS a free booth. Jillyn Hailes suggested we plan a lapidary or beading demonstration or class for our booth. Tamara will ask organizers if it will be all right. Tamara will also contact the Clear Lake Show to reserve a table for HGMS.

Youth Section: Beverly Mace reported that 2015 meetings will begin January 3, 2015. Three new members joined at the January 3, 2015 meeting. Future meetings will be held on January 17, 2015, February 7, 2015 and February 21, 2015. Saturday December 6, 2014 was the Youth Christmas party. NO MEETING was held on December 20, 2014.

Membership Report: Beverly Mace reported that 156 new members joined HGMS in 2014.

BBG Editor and Webmaster: Phyllis George reported that the deadline to receive articles for the February issue of the BBG is January 7, 2015. She has updated the Web site with programs scheduled in 2015.

Old Business

- a) **Club House Repairs / Upgrades:** Ray Kizer – Update – The next item is the installation of a pneumatic door-closing system for the door going out to the parking lot. Ray previously attempted to drill the holes in the door frame for the pneumatic door closer. The drill was not strong enough to bore through the metal frame and the concrete wall. Ray is getting a stronger drill to complete the job.
- b) **Security System:** Garth Clark committed to buying the system he found at Sam's Club this week. Because of the recent robbery near the Club, the Board is anxious to get a system in place.
- c) **Sign on club front door to direct people to side door:** Nancy English brought the suggested sign to be attached to the door facing Brooklet directing people to the parking lot entry. She will have it laminated.

- d) **Member Badges** - Beverly Mace reported that she and Carrie will choose an order date deadline for badge buyers to turn in their money for the 1st order. The badges are blue with black printing (orange was voted out some time ago) and will cost \$15.00 per badge.
- e) **Holiday Party and Auction:** The food was 5-star. Ray Kizer set up the auction; Neal Immega was the auctioneer. The auction brought in \$ 1,379.00. The club will split proceeds with one of the donors for \$214.00.

New Business - Bring up items not previously discussed.

- a) **2015 Show Committee:** Michele Marsel presented a timeline spreadsheet to show the monthly progression of major tasks needed to be ready in September. The overview was very instructive to the Board. The Show needs a Show Chair, Dealer Chair, and Publicity Chair immediately. The regularly scheduled Show committee meeting will be Tuesday, January 13, 2014, at 7:30. It will be considered an open house meeting for interested members wishing to participate on the Show Committee. Ray Kizer asked Board members to talk to club members, encouraging them to join the Show Committee and to attend the upcoming meeting.
- b) **Membership Dues:** Beverly Mace reminded Board members that 2015 membership dues are due now. She will post reminder signs around the club and in the BBG and on the Web site.
- c) **Upcoming General Meetings:**

January 27, 2015, the long-awaited “Oh, those EVIL Mineralogists!” presented by Neal Immega.

February 24, 2015, Fluorescent Minerals—Some How’s and Why’s presented by Aaron Rever. Aaron will focus on all aspects of fluorescent minerals, including the science of why minerals fluoresce, the history of collecting fluorescent minerals, and several of the worldwide locations historically famous for their collecting sites. Such locations include Franklin and Sterling Hill, New Jersey; Mt. St. Hilaire, Quebec; as well as Langesundsfjord, Norway; Langban, Sweden; and Illimassaq, Greenland. A short lesson on the chemistry and physics of fluorescence will be discussed, including activators and quenchers of fluorescence in minerals, as well as the intrinsic fluorescence present in some minerals. In addition, there will be a brief discussion of the evolution of ultraviolet lamps from historic to modern-day. Following the presentation, there will be a Show and Tell session of various specimens from Aaron’s personal collection.

Call for adjournment.

Adjourn: Paul Brandes moved to adjourn the meeting, and Garth Clark seconded. The motion passed, and the meeting was adjourned at 9:35 p.m.

AFMS: Junior Activities—Children Need Not Apply??*by Jim Brace-Thompson, AFMS Juniors' Program Chairman**from A.F.M.S. Newsletter 12/2014-1/2015,**via Pick & Shovel 1/2015*

Within the past few weeks, I've had three experiences that can only be characterized as disturbing for anyone with an interest in mentoring kids and encouraging them in our hobby. The first was reading a club bulletin publicizing an upcoming field trip and extolling all the great stuff that would be found—only to conclude with the notice: “no children allowed.”

The second was a trip to an honest-to-goodness mom-and-pop rock shop while visiting relatives in another state. Emblazoned on the door was a notice that absolutely no kids under 8 were allowed inside, and even kids 8 to 16 had to be accompanied by an adult. The store turned out to be closed that day, so I couldn't learn the reason behind these restrictions, but it wouldn't have mattered had they been open. My wife Nancy said that with a sign like that, she wouldn't have gone in even if they were offering a fire sale at 90% off.

Finally, in a newsletter article announcing an upcoming club trip, the notice was made, “Unattended children will be sold as slaves.” This last example was, no doubt, tongue-in-cheek to underscore the need for parental supervision, but still, even if in jest, it exudes an attitude toward and about kids that is less than welcoming. In the past, I've heard of clubs that didn't want to use our AFMS/FRA Badge Program because they didn't want kids mucking about in the club workshop or underfoot at club meetings.

I don't know if this can be characterized as a trend, but spotting three examples in under two months has made it especially noticeable. The fabled Golden Age of rockhounding is long gone, and we might be said to have regressed to a Bronze or even an Iron Age. Our privilege to collect on public (and even private) lands is under constant assault and restriction, interest in joining social groups (in-person as opposed to on-line) is dwindling, it proves harder and harder to recruit new members and officers to lead us, and into this environment, folks are actively dissuading interest by the up-and-coming generation? What's wrong with this picture?

Before I was even in school, I'd be out on my belly picking fossils from our driveway gravel. My parents said it was a wonder they never drove me over. Given my personality, some (including Nancy) might have paid them to do so, but far from it. They encouraged my interest, signing me up for field trips sponsored by the Illinois Geological Survey, taking me to my first rock show, and more. In 4H, when I saw there were no units on rocks, our leader signed me up for their “Do Your Own Thing” program, which I turned into a fossil

unit, crafting a booklet about fossils to go along with my small collection and getting my first blue ribbon at a County Fair. In church, our preacher engaged me in a discussion about how, viewed metaphorically rather than literally, the Seven Days of Creation could be seen as an early version of the Geological Time Scale. And in school, a teacher allowed me to do my research project on what killed the dinosaurs rather than on Chaucer like everyone else. (My conclusion: little green men from Mars. Even then, I wasn't a very good researcher....)

In short, at numerous junctures and in numerous contexts, people took an interest in my interest and encouraged me along. And these weren't even rock people. Shame on us if we can't take such an interest in a like-minded soul just starting out in the hobby we love and just trying to have fun!

Bench Tips

by Brad Smith

Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon: www.amazon.com/dp/0988285800/

Take Better Photos

Most digital cameras these days have the ability to take a good picture of your small jewelry items, but set-up is important. There are four major items to control—background, lighting, camera motion, and focus control.

Lightly colored papers from an art store make reasonable starter backgrounds. Try experimenting with other products later like glass or colored plastics. Avoid fabrics because the weave can often be distracting at high magnification.

Outside lighting is the easiest. In fact, for close-ups flash never works well. Turn off your camera's flash. Choose a bright but overcast day or a lightly shaded area when the sun is full. For inside use, two gooseneck desk lamps can be used with 75-watt bulbs. Whatever you use, be sure to set the camera to match the type of lighting you use or else the color will be off.

You'll be shooting up close, so turn on the Macro mode. Now at this range, if the camera moves even a little bit during the shot, the picture will be blurry—so it's essential to use a tripod. Used ones are available inexpensively from eBay, yard sales, or some camera shops. And even with a tripod, put the camera on the self-timer mode so that any vibration from when you click the button settles down before the camera takes the picture.

In order to get the largest part of your jewelry in focus, you have to close the lens down to the minimum aperture (highest F-Stop number). This is done by taking the camera off of "Auto" mode and selecting Aperture Priority, usually denoted by "Av" and then setting the aperture to the largest number,

which is F-8 on my camera. You'll probably have to get out the book or go back to the store to ask about this, but it's really worth it.

That's it. In recap, here are the camera settings I use:

- 1 Set the lens to Macro for a close-up shot.
- 2 Move the camera in close enough for the item to cover at least $\frac{3}{4}$ of the frame.
- 3 Look for adverse reflections from the jewelry surface.
- 4 Try to minimize reflections with changes of light position, camera angle, or white background paper.
- 5 Carefully check for any fingerprints or dust that might be on the piece.
- 6 Make any final tweaks with light and arrangement.
- 7 Turn the camera's flash off.
- 8 Select "Av" for aperture priority mode.
- 9 Set the lens opening to the highest number for maximum depth of field.
- 10 Set the lighting to match what you're using (daylight, overcast, lightbulb, fluorescent, etc.).
- 11 Set the timer to delayed shooting, either 2 seconds or 10 seconds, to avoid camera movement. The delay also gives you time to hold up a piece of white paper to reduce any final reflections.
- 12 Take the shot.

Gift for the Holidays

It's often difficult to find a nice gift for a friend who makes jewelry. **The Bench Tips** book has earned over 25 Five Star reviews, was ranked Number One in Amazon's Top 100 list for Jewelry, and named by Amazon as one of the Best Books in 2014. Get a copy at www.amazon.com/dp/0988285800/

Bench Tips

by Brad Smith

Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon www.amazon.com/dp/0988285800/

Solvent Dispenser

Frequently I need to fill a small bottle with alcohol, like an alcohol lamp or one of the nail polish bottles that I use for the yellow ochre anti-flux. Often I can't find a small funnel and end up spilling almost as much as I get into the bottle. It's wasteful, and the fumes can't be too good for you either.

A neat and inexpensive solution is to use a lab dis-



pensing bottle to store small quantities of the solvents you frequently use. It has a wide mouth for filling and a fine tip for dispensing. You can get a small stream or just a drop or two. With the bottle's fine tip, I don't spill a drop.

There are many suppliers on Google. One I've used is Carolina Biological Supply Company at www.carolina.com The bottle is Catalog # 716580 Unitary Wash Bottle, Low-Density Polyethylene, 125 mL

Silver Discoloration

Working with jewelry involves an ever-increasing number of skills. Chemistry comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment.

In the case of Sterling silver, there are three discolorations we typically encounter—a tarnish, a firescale, and a firestain. Each is different in its cause, in its cure, and in its prevention. All three have to do with the metals in the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically, these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it! Sulfur combines with the silver to form a grayish silver sulfide film on the surface.

Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner.

Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

The second type of tarnish is called firescale. It is the dark-gray to charcoal colored film that forms on Sterling or other copper alloy—like copper or bronze—when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid—generally called a pickle. It's important that we do not let firescale form on a solder joint because it will block the flow of solder over the joint.

Prevention can be done two ways. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case, oxygen is prevented from reaching the metal so no cupric oxide firescale is formed.

A second oxide can also be formed when soldering copper or a high-copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black-looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle." This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, firestain, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface; it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times.

Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench tip solution. Depletion gilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing.

A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal coats of a firecoat. Regular soldering flux will provide some protection but will not be as effective as preparations made specifically for the task.



Show Time 2015

March 7-8	Pasadena, TX	Clear Lake Gem & Mineral Society Pasadena Convention Center 7902 Fairmont Parkway http://www.clgms.org/page2.htm
March 7-8	Robstown, TX	Gulf Coast Gem & Mineral Society Richard M. Borchard Regional Fairgrounds 1213 Terry Shamsie Blvd. Linda Simpson, lsimp@swbell.net www.gcgms.org
March 7-8	Big Spring, TX	Big Spring Prospectors Club Howard County Fair Barn Big Spring Rodeo Grounds Lola Lamb, lolabellelamb@yahoo.com
March 14-15	San Antonio, TX	Southwest Gem & Mineral Society 8111 Meadow Leaf Dr., I-410 W./Marbach Robert Bowie, krbotx@gvtc.com www.swgemandmineral.org
March 27-29	Hickory, NC	Eastern Federation (EFMLS) Show
April 10-12	Ogden, UT	Northwest Federation (NFMS) Show
April 11-12	Abilene, TX	Central Texas Gem & Mineral Society Abilene Civic Center; N. 6th and Pine kmcdaniel23@suddenlink.net rockclub.txol.net
April 17-19	Alpine, TX	Chihuahuan Dessert Gem & Mineral Club Alpine Civic Cntr, 801 W. Holland Ave. (Hwy 90) Judith Brueske, jbrueske@sbcglobal.net
May 2-3	Waco, TX	Waco Gem & Mineral Club Extraco Events Center 4601 Bosque Blvd., Creative Arts Bldg. babydocmac@aol.com www.facebook.com/WacoGemAndMineralClub?ref=hl
May 2-3	Lubbock, TX	Lubbock Gem & Mineral Society Lubbock Memorial Civic Center 1501 Mac Davis Lane, Contact Walter Beneze walt@lubbockgemandmineral.org
May 23-24	Wheaton, IL	Midwest Federation (MWF) Show
June 12-15	Locic, CA	California Federation (CFMS) Show
July 16-18	Cody, WY	Rocky Mountain Federation (RMFMS) Show
October 23-25	Austin, TX	AFMS/South Central Fed. (SCFMS) Shows

2015		February				2015
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 10-4 Shop Open	2	3 7:30 Board Meeting	4 10-3 Shop Open 7:30 Mineral Section	5 7:30 Archeology Section	6	7 10-5 Shop Open 10-12 Youth Section
8 10-4 Shop Open	9 1:00 Day Light Section	10	11 10-3 Shop Open 6:30 Gemstones & Faceting Section	12	13	14 10-5 Shop Open 1:30 Beading Section Valentine's Day
15 10-4 Shop Open	16 7:30 Lapidary Section President's Day	1 7:30 Paleo Section	18 10-3 Shop Open 7:30 Mineral Section	19	20	21 10-5 Shop Open Youth Section
22 10-4 Shop Open	23	24 7:30 General Meeting	25 10-3 Shop Open	26	27	28 10-5 Shop Open

2015		March				2015
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 10-4 Shop Open	2	3 7:30 Board Meeting	4 10-3 Shop Open 7:30 Mineral Section	5 7:30 Archeology Section	6	7 10-5 Shop Open 10-12 Youth Section
8 10-4 Shop Open Daylight Savings begins	9 1:00 Day Light Section	10	11 10-3 Shop Open 6:30 Gemstones & Faceting Section	12	13	14 10-5 Shop Open 1:30 Beading Section
15 10-4 Shop Open	16 7:30 Lapidary Section	17 7:30 Paleo Section	18 10-3 Shop Open 7:30 Mineral Section	19	20 First day of Spring	21 10-5 Shop Open Youth Section
22 10-4 Shop Open	23	24 7:30 General Meeting	25 10-3 Shop Open	26	27	28 10-5 Shop Open
29 Palm Sunday	30	31				

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)
2005 - 1st (Large)
2006 — 2012 - 1st (Large)
2013 - 1st (Large)
2014 - 1st (Large)



AFMS

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



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