



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

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

Volume XLVI - No. 8

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## **President's Message**

*by Raymond Kizer*

**T**he other day I was thinking about our rock hobby and what we leave behind when we are gone. If you are anything like me, you have a house-full or garage-full of hobby-related materials. You've been collecting or cutting rocks and making jewelry for years, and by now it's really piling up. Also if you are like me, not all of it has labels or descriptions attached. So you're making all this jewelry and cutting stones—what are you going to pass on? What heirlooms will you leave for your family? Does your family have any interest in the hobby, or will they not know what to do with your life's work when you are gone? Would they plan to keep it? These are the questions going through my mind as I get older and my collections grow larger.



Your family may not realize the true value that you are passing on to them: its real world value, and its personal value to you. If you don't let them know, they may underestimate your collection by thousands of dollars or (worse still) not realize the personal pride you have invested in something you've created.

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*Continued on page 4*

## **Upcoming Programs**

*by Paul Brandes, HGMS 1<sup>st</sup> Vice President*

**J**uly 28, 2015: **Iceland – Land of Fire and Ice!** Iceland is a land of great contrasts. On the one hand, you have majestic glaciers and ice-sculpted landscapes, while on the other hand, you have volcanoes, hot springs, and geothermal areas as a result of its location on the Mid-Atlantic Ridge. These two differences create a landscape that is both majestic yet strange to the casual visitor. HGMS members Bob and Nancy Fischer traveled to this looking for the Aurora Borealis; what they found was a land of geology—lava fields, geothermal pools, a rift, etc., and a unique culture that included

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*Continued on page 4*

**2015 HGMS Gem & Jewelry Show—This Year ONLY**  
**September 25–27, 2015**  
**Y'all come!**

(In 2016 our show will be held in November—As Usual.)

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*Every article published in the BBG is edited for grammar and content. No flaming is allowed.*

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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>.

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*President's Message continued from page 1*

So here are my thoughts for you. Learn to make the best jewelry or rock art you can, and then let them know about it. Let them know its true value—how much the items mean to you personally, and how much they are worth in the real world. Get busy! Label things so your family knows what they are and where you acquired them. Minerals are much more valuable if their descriptions and source information are included.

Discuss what your family should keep and what could be donated or sold. Let them know how to deal with what you are leaving behind. If it is really valuable, you could set up a trust and designate who gets what and what you want donated. HGMS lives on donations. Most of the equipment and all of our books have been donated over the years, and because of this, our club has much more to offer you as a member. Consider including HGMS in your current or final plans. We benefit greatly from your largess, and you know it will go to a good cause.

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*Upcoming Programs -- continued from page 1*

a visit to the Bobby Fischer Center. Please join us for what will be an exciting and very informative presentation!

**July 25, 2015 Trade Show at the HGMS Clubhouse**

*10:00 a.m. to 6:00 p.m.*

*by Chase Jennings and Mary Ann Mitscherling*

**Notice to Show Visitors**

**E**veryone come on Saturday, July 25, from 10:00 a.m. to 6:00 p.m. to see what HGMS members are selling at our own clubhouse at 10805 Brooklet in Houston, TX. Fossils, minerals, cabochons and faceted stones, rocks and rock slabs, jewelry, beads, artifacts, and lapidary equipment will be available for purchase. At least twenty-one members will be selling their own items.

**The Shop, classrooms, library, general office, and paleo office will be closed all day on July 25.** The kitchen will be open for all visitors with soda, water, and coffee available for \$.50.

**The HGMS parking lot will be closed on July 25 except to listed vendors.** We have permission to use the parking on the HGMS side of the street from Roark Road to Brooklet, excluding the fenced-in area at the corner and the area with four parking spaces that face Roark next to this fencing. That includes all the space in the back of the buildings.

**Caution: Do not park in the street along Rockley—your car may get towed.**

**(Be sure to fill out an attendance form for a chance at the door prize.)**

## Notice to Vendors

If necessary, vendors can dress their tables on Friday, July 24, from 6:00 p.m. to 8:00 p.m.—as soon as the tables are moved into their proper locations. HGMS supplies the table only. Vendors must provide whatever covering they wish on their tables. The tables are plastic. Use good tape that will hold for two days at least. Vendors can use the tabletop and the space under their table only. They should not leave valuable items on their tables on July 24 when they leave the building, as **security will NOT be available**. On July 25, vendors can arrive in the morning, starting at 8:00 a.m., to dress their tables and to set out their sales items. **ONLY vendors will be admitted into the building BEFORE 10:00 a.m. on July 25.** The Shop, classrooms, library, general office, and paleo office all will be closed on July 25. The kitchen will be open for vendors and visitors.

Please direct any questions about table assignments or table payments to Mary Ann Mitscherling. Methods of payment for items bought at the Show may be directed to Chase Jennings.

Please remember that the HGMS parking lot will be closed on July 25 except for listed vendors. Use the parking on the HGMS side of the street from Roark Road to Brooklet, excluding the fenced-in area at the corner and the area with four parking spaces that face Roark next to this fencing. **Caution: Do not park in the street along Rockley—your car may get towed.**

### Bench Tips

by Brad Smith

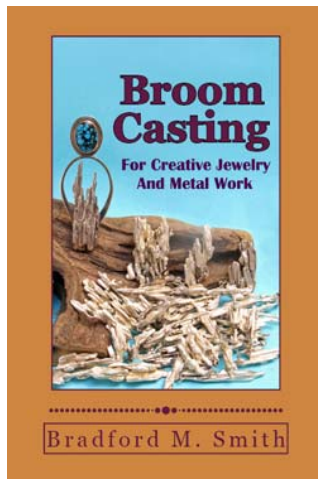
*Get all 101 of Brad's tips in "Bench Tips for Jewelry Making" on Amazon*

### NEW RELEASE - Broom Casting Book

I'm pleased to announce the publication of "Broom Casting for Creative Jewelry and Metal Work," one of the techniques that puts the fun into metalworking.



Discover the rush of pouring molten silver into a common straw broom to get marvelous icicle-like shapes that make elegant pendants and earrings. Now available on Amazon at [www.amazon.com/dp/0988285835/](http://www.amazon.com/dp/0988285835/) or search for "Broom Casting."



## Rio Tinto and the Iberian Pyrite Belt

*by Dr. Nathalie Brandes*

*Professor of Geosciences*

*Member of the Houston Gem & Mineral Society*

The Iberian Pyrite Belt (IPB) is a very large region of mineralization that is argued to be the largest massive sulphide deposit in the world (Rona, 1988; Leistel et al., 1994; Carvalho et al., 1999). Extraction of minerals from the IPB has a colorful history that spans at least 5000 years and includes localities such as the famous Rio Tinto mine.

The IPB extends from the Setúbal and Beja Districts in Portugal to the Huelva and Seville Provinces in Spain (Barriga et al., 1997). The east-west trending ore zone is approximately 250 km long and varies in width with an average of around 30–40 km. Thickness of the pyrite belt is up to 100s of meters (Davis et al., 2000). The climate of the region is Mediterranean with Atlantic and Continental influences. Summers are long and dry while winters are short and mild. Precipitation averages 40–70 cm per year, mostly falling from October to February. The region's average annual temperature varies between 15 and 20° C (Barriga et al., 1997; Fernández-Caliani et al., 2009). Much of the IPB was originally covered with *Quercus* forests. Mining activities, however, resulted in significant deforestation. Today, scrublands, eucalyptus, pine, and some orange orchards grow in the region (Fernández-Caliani et al., 2009).

The IPB is part of the South Portuguese Zone (SPZ) of the Iberian Massif (Boulter, 1993). The tectonic setting of the SPZ is debated. Some studies suggest it is an accretionary prism related to subduction that occurred to the southwest (Carvalho, 1972; Thiéblemont et al., 1994). Subduction followed by continental collision has also been suggested (Quesada, 1991; Dias and Ribeiro, 1995). Other researchers interpret the setting as a back-arc basin (Munhá, 1983; Ribeiro et al., 1983).

Three major rock units comprise the IPB. The oldest unit is the Phyllite-Quartzite Group (PQ Group), which consists of over 2000 m of slate and quartzite with subordinate amounts of conglomerate and limestone (Barriga et al., 1997; Tornos et al., 2009; Cáceras et al., 2013). Fossils found in the limestones were dated to the Upper Devonian (Boogard and Schermerhorn, 1975). The PQ Group is overlain by the Late Devonian to Early Carboniferous Volcano-Sedimentary Complex (VSC). The VSC consists of up to 1300 m of volcanics and mixed sediments. The volcanic rocks range from mafic to felsic in composition with felsic rocks more abundant. Mafic rocks include diabase and pillow lavas. Felsic rocks include rhyolite domes, rhyolite lavas, and some pyroclastics. The VSC sedimentary rocks include shale, greywacke, impure quartzite, jasper, chert, and limestone (Barriga et al., 1997; Soriano and Martí, 1999; Tornos et al., 2009). This unit is the host rock of the IPB massive sulphides, which are commonly associated with felsic tuff and black shale.

Minor manganese deposits also occur in the VSC, usually in association with jasper (Barriga et al., 1997). Overlying the VSC is the Culm Group, also known as the Flysch Group. This is an Early Carboniferous turbidite deposit that includes shale, greywacke, and conglomerate containing volcanic clasts (Oliveira, 1983; Oliveira, 1990; Tornos et al., 2009).

During the Variscan Orogeny, these rocks underwent folding, thrusting, and regional metamorphism (Ribeiro and Silva, 1983; Silva et al., 1990; Quesada, 1996). The maximum metamorphism occurred during to just after the Variscan deformation and reached prehnite-pumpellyite to greenschist facies (Barriga et al., 1997).

The mineral deposits in the IPB are complex. The sulphides were emplaced 300–350 Ma (Moreno, 1993). Most are lenses of massive sulphides overlying hydrothermally altered rock and a stockwork of sulphide-rich veins that were the conduits of ore fluids. In the northern IPB, the sulphides occur as replacement deposits in pumice-rich volcanoclastics and dacite. In the south, ores are slate-hosted with characteristics of exhalative deposits. Rio Tinto is located between the two zones and exhibits characteristics of both (Tornos, 2006; Tornos et al., 2009). Because of these complex variations, Sáez et al. (1999) proposed that they be considered Iberian-type massive sulphides, defined as volcanic hosted massive sulphides transitioning to sediment hosted massive sulphides.

The mineralizing fluids that created these deposits were mostly seawater modified by the addition of some magmatic water (Munhá et al., 1986; Sáez et al., 1999). Fluid inclusion studies indicate that the salinity of these fluids was 2 to 13 weight % NaCl and temperatures varied from 130 to 400°C (Sawkins, 1990; Nehlig et al., 1998; Sáez et al., 1999). The sulphides were likely produced in several stages, the earlier stages having waters <300°C, the later stage waters being 300–400°C. The source of the metals in the deposits was the underlying Devonian rocks (Sáez et al., 1999). Sulphur was derived from hydrothermal fluids as well as bacterial reduction of sulphate on the seafloor (Velasco et al., 1998). Rocks underlying the ore deposits have been hydrothermally altered by the mineralizing fluids. This alteration has produced chlorite, carbonates, epidote, albite, and actinolite in mafic volcanics (Munhá, 1990). Felsic volcanics have been affected by various processes, including albitisation, sericitisation, chloritisation, silicification, and adularisation (Munhá and Kerrich, 1980; Barriga and Kerrich, 1981, 1984; Barriga, 1983, 1990).

There are around 90 massive sulphide deposits in the IPB. They occur as lenses or sheets 4–5 km long, 1–5 km wide, and 80–100 m thick. Individual deposits are up to 500 million tonnes, Rio Tinto being the largest (Barriga et al., 1997). In the Cenozoic, supergene alteration affected the ore deposits, resulting in thick gossans at the surface with an enriched zone between the gossan and massive sulphide (Salkield, 1987; Hunt Ortiz, 2003; Tornos et al.,

2009). At Rio Tinto, the gossan of Cerro Colorado was up to 70 m deep. It is estimated that there were originally over 1.7 million tonnes of sulphides in the IPB. Approximately 20% have been mined and 10–15% lost to erosion (Barriga et al., 1997).

The sulphides in the IPB are predominantly pyrite with lesser amounts of sphalerite, galena, chalcopyrite, arsenopyrite, and pyrrhotite (Sáez et al., 1999). Less common and minor minerals include Bi-Sb-Pb-As sulphosalts, tetrahedrite-tennantite, stannite-kesterite, cassiterite, magnetite, electrum, cobaltite, bournonite, mawsonite, Co-sulphoarsenides, and stannoidite (Aye and Picot, 1976; Sierra, 1984; García de Miguel, 1990; Kase et al., 1990; Ruiz de Almodóvar et al., 1994; Marcoux et al., 1996; Barriga et al., 1997; Leistel et al., 1998; Almodóvar et al., 1998).

Typical gangue minerals include quartz carbonates, muscovite, and chlorite (Velasco et al., 1998). Average ore grades of sulphide deposits were reported as 45% S, 40% Fe, 0.9% Cu, 2.1% Zn, 0.8% Pb, 0.5 g/t Au, and 26 g/t Ag (García Palomero 1992). Gossan rocks are rich in Au, Ag, Pb, Sb, and Bi with up to 1.8 to 2.5 g/t Au and 35–45 g/t Ag (Tornos et al., 2009).

Mining in the IPB dates as far back as the Chalcolithic Age in the 3<sup>rd</sup> Millenium BC when minerals were extracted from surface trenches (Barriga et al., 1997; Yeoman, 2010). The Phoenicians arrived around 1100 BC. They introduced improved smelting techniques, resulting in greater silver production from the mines. The Carthaginians controlled the region from around 535 BC until their defeat by the Romans in 206 BC (Yeoman, 2010). It was under Roman rule that operations were significantly expanded. Shafts reached depths of around 450 ft., requiring special ventilation shafts and dewatering techniques that included large underground waterwheels. The most intense period of Roman mining occurred between 0 AD and 180 AD when Rio Tinto was the largest mining operation in the empire (Edmondson, 1989; Ruiz et al., 2008; Yeoman, 2010). It is estimated that during the Roman period 25 million tonnes of ore were extracted (Strauss et al., 1977).

During the 2<sup>nd</sup> Century AD, the Mauri of North Africa invaded Spain and mining decreased significantly. Under Visigoth rule (~350 AD to ~650 AD) mining was abandoned completely. Minor mining activity resumed in the 10<sup>th</sup> to 13<sup>th</sup> Centuries during Moorish rule. In the 1550s, King Phillip II of Spain commissioned a priest, Diego Delgado, to find new mines. While Delgado reported the mineral-rich rocks of Rio Tinto to the king, no mining was pursued in the area until the British began large open-cast operations in 1873 (Yeoman, 2010). Peak production from the mines occurred from 1900 to 1930 (Salkield, 1987). The mines closed in 2001 as the prices of commodities dropped (Yeoman, 2010).

The Rio Tinto Mine was named for the river flowing in the region. Water in the Rio Tinto flows red due to the acidic and metal-rich water. This pollution began in the Miocene with the natural oxidation of the sulphide minerals



exposed in the IPB. It increased with the escalation of mining in the region (Cáceras et al., 2013). The pH of water in the river varies between 0.8 to 4.0 with significant amounts of dissolved heavy metals (Nelson and Lamothe, 1993; Fernández Remolar et al., 2002). Several minerals including melanterite, rozenite, rhomboclase, szomolnokite, copiapite, coquimbite, hexahydrite, halotrichite, and gypsum form on the banks of the Rio Tinto as the acidic waters evaporate (Buckby et al., 2003). The chemistry of the water also supports extremophile microorganisms and algae in a unique ecosystem unknown elsewhere on earth (Garcia-Moyano et al., 2007; Tornos et al., 2009).

Mining at Rio Tinto is dormant at present, but its long history is visible in the many mine pits, crumbling buildings, and rusting equipment. The Rio Tinto Foundation maintains a mining park and museum dedicated to preserving the unique history of this region.

**References available upon request. Contact the author at  
DrNat13@Yahoo.ca.**

**Editor's Note:** *Dr. Nathalie Brandes originally submitted this document with over four pages of references. However, due to the space that would have taken up in this newsletter, she elected not to print any references, allotting that space to the work of additional authors instead.*

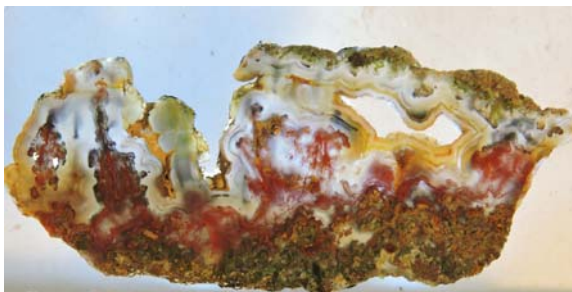
### **Agate Photography**

*by Neal Immega*

*Member of the Houston Gem & Mineral Society*

**Y**ou can produce spectacular photographs of agate without the work of polishing them first. I have had a serious case of agate envy since I have been looking at agate photographs on Flickr by HGMS member Matt Dillon and others, but the work in polishing the specimens has daunted me. This is quite sad because I can use our shop as much as I want—I am the shop foreman. Well, I have found a solution—photograph the slabs underwater. I encountered the technique on the Web site of a couple of German photographers, and I was impressed by the results.

I will show my setup in more detail in a subsequent article, but in short, I use



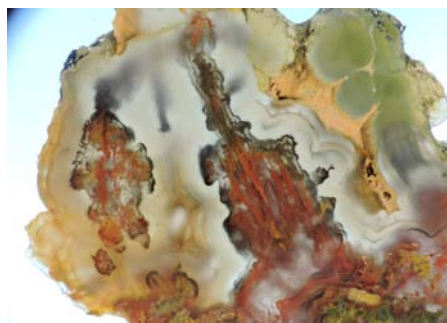
The slab is ~4 inches  
across

a plastic dishpan, a Plexiglas platform on four bolts, and I light the subject from above and below with LEDs. The camera is on a copy stand. The camera is a Nikon p600 (point and shoot) with an external Raynox DCR-2500 close-up lens.

Let's see some results. I picked this slab out from our recent donation of tons of agate and 10,000s of slabs. It is a vein agate showing tubes, particularly in macro. This is better than a microscope!

I suggest that you look these up on the HGMS Web site to see them in color. Click on the link, and you will find the photos on pages 9 & 10.

<http://www.hgms.org/BBG/Aug15.pdf>.



Close-up showing nested  
red and green tubes



Wispy red filaments and  
yellow pompoms



Young Darwin documenting his finds in the  
modern fashion  
(Accompanying article on page 11)

## Dino Hunting at the WUP Library

by Neal Immega, Ph.D., Paleontologist

Member of the Houston Gem & Mineral Society

What an easy crowd! Giving a summer reading program on fossils at a city library is something everyone can do because the crowd is so appreciative.

I did a program called “Adventures in Fossil Collecting.” The librarians were very welcoming, had everything set up, and even organized a display of books to go along with the theme.

We talked all about the fellow who the character of Indiana Jones was based on—Roy Chapman Andrews of the American Museum of Natural History in New York. What a story. He grew up in rural Wisconsin and collected fossils to pay for college, after which he wanted to work at the American Museum of Natural History in New York. When they said that they had no openings, he got a job scrubbing floors. Since he was there, he got to volunteer for better and better jobs and retired in 1941 as DIRECTOR of the museum. Talk about working your way up!

My program ended with a fossil hunt in the library. The librarians helped hide fossils everywhere, and the kids were expert at finding them. How can you go wrong giving away fossils? Of course, people may still be coming across stray ones next Easter. If you want to do a program, see me for fossils to give away.



Neal showing mammoth bones to young collectors

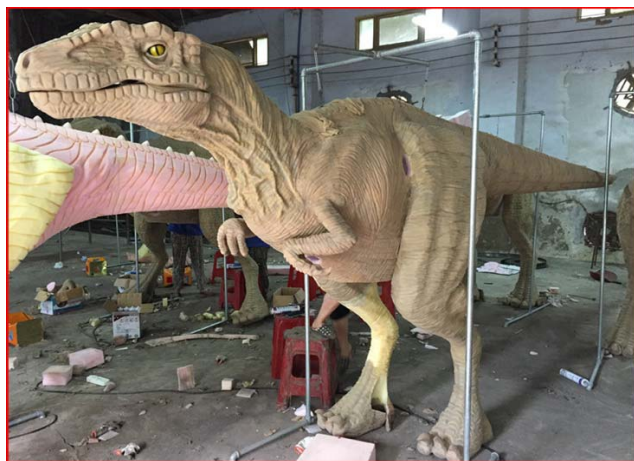
Show Committee Happenings  
*by Scott Singleton*  
*HGMS 2015 Show Chair*

On July 11, the Show Committee had their annual postcard labeling party at the clubhouse. I'm pleased to announce that 16 volunteers came to help with the labeling. These were Beverly Mace, Rhonda Burrage, Karen Bell, Gary Anderson, Michele Marsel, John Caldyne, Douglas Dodds, Kathryn Kelly, Diane Sisson, Nancy English, Scott Singleton, Fred Brueckner, Neal Immega, Jim Kendall, Rick Rexroad, and Bill McCullough. Lunch was provided by Rhonda Burrage, Kathryn Kelly, Nancy English, and Beverly Mace. Tables were set up by Ray Kizer and Jim Kendall. I'm very pleased that the helping spirit is alive and well at the HGMS. The Show Committee is hoping this spirit will be out in full force at our annual show in September.

Our next event to be held at the clubhouse is the **Annual Show Dinner and Auction. It will be held Saturday, August 29.** As usual, the Show Committee will be providing a main dish, but everyone is encouraged to bring a dish and an auction item. In fact, starting in August a box will be sitting next to the door leading into the main meeting room with a sign on it indicating it is for auction donations—not only for the dinner auction, but also for the Info Booth Silent Auction at the show. Please bring items to donate to help the club. Remember that the dinner auction is for club members who typically will bid substantially for nice items (you can put a minimum bid on your donation if you wish), whereas the show silent auction will be for lesser-priced items for the general public. We hope to see you at the dinner and auction!

And finally, the picture below is rumored to be of an escaped velociraptor from the set of the new Jurassic Park movie (Jurassic World). If you see him, better hope Chris Pratt (the trainer) is around to control him.....

Has anyone seen this Velociraptor? He is rumored to be on the loose from the Jurassic World movie set.





Norman and Susan Lenz

### **In Memoriam—Susan Lenz**

*by daughter Tanya Treece on her Facebook page*

**S**usan Jane Nelson Lenz, 63, left this world to be with God and her Dad (George Nelson) on Saturday, June 13, 2015 at 10:37 p.m. after a hospitalization near her home in San Marcos, Texas.

Susan was born to George and Barbara Nelson of Delphi, Indiana. She graduated as valedictorian of her class from Delphi High School in 1969. She gave birth to one daughter, Tanya, who currently resides in Houston, Texas. She went back to college later in life and graduated with honors with a B.S. in Computer Science from Purdue University in 1988. She was given the honor of being the chosen speaker for her graduating class. She moved to Houston, Texas after accepting a job offer from ExxonMobil. She worked in various roles as she moved through her career, but in her last role she was a Global Technical Project Manager.

She married Norman Lenz on November 25, 1989. Anyone who knew Susan would tell you that she was one of the strongest, most intelligent, driven, organized, detailed and tenacious women that they have ever met.

In December of 2005, she was diagnosed with Glioblastoma Multiforme Stage 4 Brain Cancer and received treatment from MD Anderson Cancer Center in Houston. Her determination was evident as she fought and won her battle with cancer for 9.5 years with the steady support and dedication from her husband, daughter, and several private caregivers over the years.



Susan was loved immensely and will be missed by her husband Norman Lenz, her daughter Tanya Treece, her mother Barbara Nelson, her sisters Diana Reef, Janet Allbaugh, Tracy Houchin, and Karen McFadden, her brother Jeff Nelson, in addition to her extended families in Indiana and Missouri. A celebration of Susan's life is planned for July 5 in City Park, Delphi, Indiana between 2:00 pm and 5:00 p.m. In lieu of flowers, the family requests that donations be made in Susan's name to MD Anderson Cancer Center ([gifts.mdanderson.org](http://gifts.mdanderson.org)).

*Editor's Note: Susan Lenz was a member of HGMS for many years. She served as the Faceting Section Board Representative in 2002-2004 and as the HGMS Board Secretary in 1993 and 1992. She is greatly missed by us all!*

### Archeology Section

August 6, 2015

by Dr. Garth Clark

#### Upper Paleolithic and Pre-Pre-Clovis Sites in Texas

Just a decade ago, textbooks taught that the first peoples in the Americas travelled over the Bering land bridge around 12,000 years ago and spread throughout the Western Hemisphere. However, literally hundreds of sites have shown a new picture of successive waves of migration, some by sea that populated the Americas much earlier. Several important sites such as the Gault site and the Buttermilk Creek complex confirm pre-Clovis man in Texas. But is there a pre-pre-Clovis human presence in Texas? Several sites, including the Rio Grande cave sites, Wagoner ranch, and the Circle Ranch sites suggest that humans have lived in Texas for as long as 40,000 years. Join us at our next meeting August 6, 2015 as we explore the latest evidence from these sites.

**Lapidary project:**  
Sterling and agate  
bracelet  
made by Kate Smith



## Mineral Section Programs

*by Paul Brandes*

*1<sup>st</sup> Vice President*

**July 15, 2015—Fluorescent Minerals Prep for Show:** For this gathering, the Mineral Section will be working on our fluorescent mineral display that we set up and display at the HGMS Annual Show. Come help with this important activity, and learn a little more about fluorescent minerals in the process. This session will begin at 7:30 pm.

**August 19, 2015—Work Night for Show:** The Mineral Section will meet to begin preparing for the Annual Show. Come on out and help with these important items. This is also a great time to meet some of the Section members in a laid-back atmosphere. We will meet at 7:30 pm.

**September 2, 2015—Welcome back!** Typically, our first regularly scheduled meeting after the summer hiatus, this evening's presentation will be a synopsis of each member's summer mineral collecting adventures. Plenty of time will be available for short presentations, show and tell, and socializing with other members. Attendees are encouraged to bring in their summer field finds (clean or not) as well as summer purchases to display. Also, Section Members who attended the Dallas Mineral Symposium in August are encouraged to discuss the event and show any minerals they may have obtained. Refreshments will be available.

**September 16, 2015—Last Minute Show Prep:** This meeting will focus on any of those last-minute items the Section needs to complete before the Annual Show. Even though this technically will be a "work night," the meeting likely will turn into a "tall tale" discussion of past mineral collecting trips and field stories. While there will not be a formal presentation for this meeting, this will be a great opportunity for new and potential members alike to join us for an evening of fun and lively discussion. Refreshments will be provided.

**October 7, 2015—Gem and Mineral Show Wrap-up:** This is our opportunity as a Section to review the show while it is still somewhat fresh in our minds. Bring your comments on what we did right and where we can improve. Also, bring in your show purchases and be prepared to discuss why you purchased what you did. Section members who attended the Denver Mineral Show in September also are encouraged to discuss that event and show off any minerals they brought back. Refreshments will be provided.

**October 21, 2015—Locality Presentation (Location to be announced)**

## General Meeting Minutes

June 23, 2015

by Ray Kizer

President Raymond Kizer called the meeting to order at 7:30 p.m., and he thanked everyone for coming to the General meeting. The meeting was attended by twenty-four regular members, one new member, and three visitors. President Kizer asked the new members and visitors to stand and be recognized. The new member is James Dupuis (*Dupree*). Our Visitors were Jean Good, Jen Schmitt, and Paul Gruber.

**Drawing:** We drew four door prize winners this month; Bill Bedman, Danny Arnold, Mary Ann Mitscherling, and Nathalie Brandes who won the vintage Mineralogy book.

**Minutes:** The minutes of May's General Meeting were not included in the most recent BBG. Therefore, we will not need to approve the minutes, as they must first appear in the BBG for your review before they can be approved. See how things continue to fall apart without my trusted Secretary, Nancy English?

**President's Comments:** Speaking of Nancy, I talked with her recently and she was doing much better. She said she is at about 80% and hopes to be back doing things with the club by next month. We all wish her a speedy recovery, but none more than me. I would like to thank all the people who volunteered to staff the club information booth during last weekend's Inter-Gem Show. With Clyde McMean's help, the booth was set up Thursday afternoon and ready to go on Friday morning. So, thank you again to our volunteers: Clyde McMeans, Randy Carlson, Paula Smith, Tamara Ritchie, Rhonda Burrage, our newest member Andrea Dvorak, and me.

**2015 HGMS Earth Science/Jewelry Arts Scholarship:** During the June 2<sup>nd</sup> Board of Directors meeting, the Board took time to review and compare the credentials of our three potential scholarship candidates. By a majority vote, Ms. Uma Lad was chosen as the winner of the 2015 scholarship. Ms. Lad, a rising junior at Southern Methodist University Dallas, was notified of the Board's decision and informed that a \$2,500 Educational Scholarship check was sent to the university office of financial aid on her behalf.

If you are not familiar with this scholarship, visit our Web page for more details.

**Show-N-Tell:** Chase Jennings brought in some large petrified wood rounds (cores) which he obtained on a recent trip to Oak Creek in the Collage Station area. Steve Blyskal showed the members a new mineral hardness test-

Get last-minute news about club events by sending a note to Jim Kendall at [kendal\\_ja@yahoo.com](mailto:kendal_ja@yahoo.com)



ing kit and a collecting backpack he purchased online from Geotools.com. Jacob Kohr brought in some fossil sharks teeth found while vacationing in Venice, Florida.

### Section Reports

**Archaeology Section:** On June 6, 2015: Dr. Dirk Van Tuerenhout, the HMNS Curator of Anthropology, led a special tour for the Section of two exhibits: *"Samurai: the Way of the Warrior"* and *"China's Lost Civilization: The Mystery of the Sanxingdui."* A group of 19 members participated in the tour which lasted for almost three hours. These are excellent exhibits, and they will be ending in September. So if you missed the tour, go see these exhibits before they leave.

**July 2, 2015:** No meeting scheduled due to the holiday

The next meeting is **Thursday, August 6 at 7:30 p.m.** Garth Clark, the Section Chair, will give a talk on Paleolithic Pre-Clovis findings dating back at least 30,000 years from a cave in Texas. Attend and hear about this exciting new discovery that moves the time for human migration into The Americas much earlier than was thought—over 15,000 years! Learn the details of dating charcoal samples that are consistently confirming the much earlier age of migration.

**Beading Section:** The June 20 Beading Section project was how to complete a Tila and Pico Bracelet. The next regular meeting is **Saturday July 18, 2015 at 1:30 p.m.** Work will continue on the Pico Bracelet.

**Day Light Section:** The next regular meeting is **Wednesday July 1, 2015 at 1:00–3:00 p.m.** This will be an open shop session.

**Gemstones and Faceting Section:** The next regular meetings will be on **Wednesday, July 8, and August 12, 2015, at 6:30 p.m.** The July program will demonstrate the technique for cutting a simple gemstone. The August program will focus on how to polish a simple gemstone.

**Lapidary and Silversmithing Section:** The next regular meeting is Monday, July 20, 2015 at 7:30 p.m. The program will be on Texturing Metal. Imagine a smooth surface of metal (silver or gold), then being able to press into the surface a set of parallel lines, or small dimples (depressions), or a set of fine scratches. All this and lots more fall into the category of Texturing. Open Shop will be held 5:00–7:15 p.m. prior to the meeting.

**Mineral Section Summer Workshops:** On Saturday June 27, 2015—at 2 p.m.—The Mineral Section will be hosting an introduction to basic rock and mineral identification workshop for all Society Members to attend. Whether you are an experienced mineral collector or just getting your feet wet in the world of minerals, this workshop will give you the tools to identify rocks and min-

erals in the field as well as in a show environment. Members of the Mineral Section will be on hand to provide information you can use on your next collecting trip. This will also be a great time for members to bring in that unknown rock or mineral that has been sitting around in your house and have it looked at by experienced Mineral Section members. This workshop will begin at 2:00 p.m. in the Clubhouse.

**July 15, 2015**—Fluorescent Minerals Prep for Show: For this gathering, the Mineral Section will be working on our fluorescent mineral display that we set up and display at the Annual Show. Come help with this important activity and learn a little more about fluorescent minerals in the process. This is also a great time to meet some of the Section members. This session will begin at 7:30 p.m.

**August 19, 2015**—Final Prep for Show: The Mineral Section will meet to finalize those last-hour preparations for the Annual Show. Come on out and help with these important items. This is also a great time to meet some of the Section members. We will meet at 7:30 p.m.

**Paleo Section:** The next meeting is scheduled for Tuesday, July 21, 2015 at 7:30 p.m. Neal Immega will present a program on Dinosaur Fossils of the Morrison Formation.

**Youth Section:** The next meetings are scheduled for July 4, July 18, August 1, and August 15, 2015 from 10:00 a.m. until 12:00 noon. Typically the Youth Section continues training and working on cabochons in the shop.

### Old Business

In the interest of time, President Kizer asked the members to follow the progress of Old Business items in the June 2, 2015, Board meeting and General meeting minutes as published in the July 2015 edition of the BBG.

### New Business

- The next Board of Directors meeting is Tuesday, July 7, 2015 at 7:30 p.m.
- **In preparation for the HGMS Gem, Mineral Jewelry & Fossil Show coming up September 25-27, 2015**, members are invited to join us for the **POSTCARD LAUNCH PARTY and POT LUCK LUNCH**. Saturday, July 11, 2015 beginning at 10:00 a.m. Please bring a dish to share. Drinks and everything else will be provided.
- **HGMS will host a Fossil, Mineral, Gemstone, Jewelry, Lapidary and Native American Artifact Trade Show on July 25, 2015 from 10:00 a.m. to 6:00 p.m. at the HGMS Clubhouse.** Bring an item to trade, or buy from one of the many trade show dealers. To register for a table to sell or trade hobby-related items, contact Chase Jennings or Mary Ann Mitscherling for details.

- The next General Meeting is Tuesday July 28, 2015 at 7:30 p.m. The program will be presented by **Bob and Nancy Fischer: Iceland – Land of Fire and Ice!** Iceland is a land of great contrasts. On the one hand, you have majestic glaciers and ice-sculptured landscapes, while on the other hand, you have volcanoes, hot springs, and geothermal areas as a result of its location on the Mid-Atlantic Ridge. These two differences create a landscape that is both majestic yet strange to the casual visitor. Society members Bob and Nancy Fischer traveled to this land looking for the Aurora Borealis; what they found was a land of geology—lava fields, geothermal pools, a rift, etc., and a unique culture that included a visit to the Bobby Fischer Center. Please join us for what will be an exciting and very informative presentation! Open Shop will be held 5:00-7:15 p.m. prior to the meeting.

**Adjourn:** Paul Brandes moved to adjourn the business meeting, and Steve Blyskal seconded. The motion passed unanimously, and the meeting was adjourned at 8:10 p.m.

### 5-minute break

The Vice President introduced our speaker and the program for the night.

**Speaker: Dr. Nathalie Brandes: The Famous Silver Mines of Kongsberg, Norway**

Attend any large gem and mineral show, and you're sure to see one of the famous Kongsberg, Norway wire silvers. They are perhaps the most aesthetic and exquisite silvers in the world. What most people don't realize is that there is a lot more to the Kongsberg area than just pretty silvers. Our speaker, Dr. Nathalie Brandes, will take us on a tour that features such places as the King's Mine, The Norwegian Mining Museum, and the "Silver Vault," and walking around the town taking in the sights. As always, there will be a description of the geology,

mining history, and plenty of pretty photos from around the Kongsberg area—and of course, lots of photos of wire silver specimens! Anyone who has seen Nathalie talk in the past knows this promises to be a very lively and entertaining presentation.



**Junior, Mommy would like to talk to you about your rock collection.**

*by Erston Barnhart  
via Fly Grader 3/94*

**Refreshments:** Provided by Ray Kizer

## Board of Director's Meeting

July 7, 2015

By Ray Kizer

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

**Call to Order:** President Ray Kizer called the meeting to order at 7:30 p.m. A quorum was present. Two non-voting members were present at the meeting: Carrie Hart, Education Chair; Chase Jennings, Information Booth Chair.

**Approval of Previous Month Board Minutes:** Phyllis George moved and Nancy English seconded a motion to approve the minutes of the June 2015 Board Meeting as published in the July 2015 BBG. The motion passed unanimously.

**Treasurer's Report:** Rodney Linehan e-mailed financials to all Board members in advance of the meeting. Rodney mentioned that he has set up two new accounts at Chase Bank—one savings account for higher interest, and the other to use with the Square account. Deposits and expenses were reviewed, and the Board was satisfied with the status of the club accounts.

### Office, Committee, and Section Reports

**Archeology Section:** The next meeting will be on Thursday, August 6 at 7:30 p.m. Garth Clark will give a talk on Paleolithic Pre-Clovis findings dating back at least 30,000 years from a cave in Texas. Mark your calendar to hear about this exciting new discovery that moves the time for human migration into The Americas back more than 15,000 years! Learn the details of dating charcoal samples that consistently confirm the much earlier age of migration.

**Beading Section:** Diane Sisson reported that the next regular Beading Section meeting is Saturday, July 18, 2015 at 1:30 p.m. The group will continue working on the Tila and Pico Bracelets begun at the June 20 meeting.

**Day Light Section:** Mary Ann Mitscherling reported that the next meeting is scheduled for Wednesday, **August 5, 2015**, 1:00 to 3:00 p.m. Neal Immega will start a two-session class on soldering a bezel on a base for a cab. The first six students to arrive will receive hands-on training and must also commit to attending the second class to be held on **August 12, 2015**, 1:00 to 3:00 p.m. All other attendees will observe the process.

**September 2, 2015**, Debbie Kirkpatrick will teach stone setting using gravers.

**October 7, 2015**, Karen Burns will direct the first of two programs to make a Dragon Scale jump ring bracelet. Hands-on practice will be available, time permitting. Copper Jump rings will be available for practice.

**November 4, 2015**, Kate Smith will demonstrate metal working to make the ends of the Dragon Scale Bracelet. Hands-on practice will be available, time permitting.

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

**Education Committee:** Carrie Hart reported that she is looking for an instructor to teach a dichroic glass class. Please contact Carrie Hart at [classes@hgms.org](mailto:classes@hgms.org) if you are interested in teaching or in taking this or any other HGMS class. Carrie will add students to her list and notify them by email when a class is forming. Ellen Aresty, member of HGMS and the Metal Working Guild, asked HGMS to demonstrate faceting or cabochon making for the Guild.

**Gemstones & Faceting Section:** Gary Tober reported that the next meetings are on Wednesday, July 8, and August 12, 2015. Meetings begin at 6:30 p.m. The topic for the July session will be "Cutting a Simple Gemstone" lead by James Cockrell and Randy Carlson, as well as a show and tell period. Then on August 12, the session will focus on polishing the stone. The July 8 meeting may be about preforming the stone.

**Lapidary and Silversmithing Section:** Phyllis George reported that the June 15 meeting was cancelled due to heavy rain and flooding. The next regular meeting is Monday, July 20, 2015 at 7:30 p.m. The program will be on Metal Texturing. Imagine a smooth surface of metal (silver or gold), then being able to press into the surface a set of parallel lines, or small dimples (depressions), or a set of fine scratches. All this and lots more fall into the category of Texturing. Open Shop will be held 5:00–7:15 p.m. prior to the meeting.

**Mineral Section:** The next meeting will be a Summer Workshop on Wednesday, July 15, 2015 at 7:30 p.m. For this gathering, the Mineral Section will be working on our fluorescent mineral display that we set up and display at the Annual Show. Come help with this important activity and learn a little more about fluorescent minerals in the process. This is also a great time to meet some of the Section members. Wednesday, August 19, 2015—Final Prep for Show: The Mineral Section will meet to finalize those last-hour preparations for the Annual Show.

**Paleo Section:** Mike Dawkins reported that the June 16 meeting was cancelled due to heavy rain and flooding. The next meeting is scheduled for Tuesday, July 21, 2015 at 7:30 p.m. The program will be by Neal Immega. He will thrill the attendees with his recent road trip exploits of the Dinosaurs of the Morrison Formation.

**Publicity Committee:** The June 30, Publicity Committee was canceled due to street flooding in SW Houston. However, discussions were undertaken on the phone covering the status of Print Publicity and Media Kits to spread the word about the September Show. Several action items under each topic currently are underway. The next Publicity Committee meeting may be Tuesday July 28, 7:00 p.m., at the clubhouse.

Ray Kizer reminded us of the new Pinterest and Facebook pages to help promote the HGMS show and club activities. Please view these pages and "LIKE" HGMS.

**New Pinterest page:** [www.pinterest.com/hgmsorg](http://www.pinterest.com/hgmsorg)

**New Facebook page (public):** [www.facebook.com/HGMS.org](http://www.facebook.com/HGMS.org)

**Existing Facebook group (members only):**

[www.facebook.com/groups/261418120558910/](http://www.facebook.com/groups/261418120558910/)

We are seeking Volunteers to help staff the table at the Joy of Quilts Show (July 17-18) at the Stafford Center. This is an effort by the club to reach a new audience which also has a large public draw in Houston. HGMS provides the display kits, but beading and lapidary examples would be a good addition. The show runs 10 a.m.–6 p.m. on Friday, July 17 and from 9 a.m.–4 p.m. on Saturday, July 18. Volunteers who work a two-hour or more shift will be reimbursed for the admission ticket (\$7 one day, \$10 two days). Parking is free. For more details or to sign up, please contact Tamara Ritchie [tritchie2011@gmail.com](mailto:tritchie2011@gmail.com). An ad has been prepared for the Quilt show program.

The Stafford Beading Show is scheduled for October 3 and 4, 2015. Diane Sisson has committed to getting the Beading Section involved in the volunteer effort there.

Tamara is working on vendor shows for August, October, and November, and she is communicating with other non-profits and museums regarding exhibiting, events, and education opportunities.

**Show Committee:** The Show Committee held their first regular monthly meeting on Tuesday, May 12, 2015. Committee members present discussed,

1. Upcoming Events:
2. Dates for summer events:
  - a. Postcard labeling party and pot luck luncheon will be held on Saturday, July 11, 2015 beginning at 10:00 a.m. Please bring a dish to share, drinks and everything else will be provided. Rhonda Burrage is coordinating the food. The postcards will delivered to Beverly Mace on Thursday, July 9.
  - b. Show dinner / auction will probably be held in early August.
  - c. Show Committee pre-show party: Scott will work with committee to pick an August date for party at Nancy English's home.
3. Dealer Committee Report: The Dealer list is full now.

4. Publicity Committee Report: See Above
5. Info Booth organizational meeting and inventory on Saturday, June 13, at 10:00 in the clubhouse
6. Ticket design and printing (end of June)
7. Ray Kizer has lined up the EMT and the Police for the event. He is negotiating with the food vendor.

**Youth Section:** The next meetings are on Saturday, July 18, 2015 and August 1, 2015 from 10:00 a.m. to noon.

**BBG Editor and Webmaster:** Phyllis George reported that the deadline for her to receive articles for the August issue is July 8, 2015.

### Old Business

1. Club House Repairs / upgrades: Next improvement is a doorbell that rings in the meeting room.
2. Security System: Garth Clark – Eight of the ten cameras of the new security system have been installed. There are sixteen channels, so there are enough channels to add smoke detectors. Garth will look into additional items such as a cage, cable lock, as well as additional wire for the last two cameras and smoke alarms. The entry camera will be hooked up to an email notification line.
3. Member Badges. Beverly Mace has received the first badge order, and they are available for pickup by the membership information area in the meeting room. The Board was reminded that many vendors at the shows will give a discount to club members. Wearing an HGMS pin identifies you as a club member. To order a badge, put your NAME only on a membership form. Put the form and a check for \$15 in the Membership slot on the office door. Beverly will submit another order before the September Show.

### New Business

1. General Meeting Presentation: Tuesday July 28, 2015 at 7:30 Iceland – Land of Fire and Ice! Iceland is a land of great contrasts. On the one hand, you have majestic glaciers and ice-sculptured landscapes, while on the other hand, you have volcanoes, hot springs, and geothermal areas as a result of its location on the Mid-Atlantic Ridge. These two differences create a landscape that is both majestic yet strange to the casual visitor. Society members Bob and Nancy Fischer traveled to this land looking for the Aurora Borealis; what they found was a land of geology—lava fields, geothermal pools, a rift, etc., and a unique culture that included a visit to the Bobby Fischer Center. Please join us for what will be an exciting and very informative presentation!

Open Shop will be held 5:00-7:15 p.m. prior to the meeting.



2. HGMS will host a Fossil, Mineral, Gemstone, Lapidary, and Artifact Trade Show: All indoor tables have been sold. Vendors will need to be at HGMS from 6:00 to 8:00 p.m. on Friday, July 24 to set up inside HGMS clubhouse (and garage). Vendors may dress their table/tables to be ready for Saturday morning. Club will be open at 8:00 a.m. for setup inside and outside .

**Adjourn:** Paul Brandes moved to adjourn the meeting, and Mike Dawkins seconded. The motion passed unanimously, and the meeting was adjourned at 8:55 p.m.

### **Graphene—The World's Most Incredible Material?**

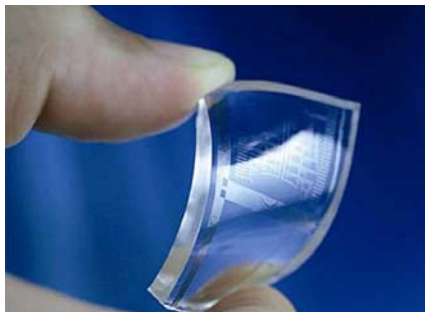
*from an article by David Freeman*

Via the Bulletin of the New York Mineralogical Club, 7-8/2015,  
via Rockhound Ramblings 7/2015

Imagine a cell phone that you could fold up like a handkerchief and stick in your pocket. Or a giant video screen you could hang on the wall like a sheet. Or how about ultra-fast-charging batteries, or super-efficient see-through solar cells? Never heard of it? Remember that you heard of it here! All those and many more products may be available in the not-too-distant future, Dr. David A. Boyd—a staff scientist at the California Institute of Technology and the researcher credited with developing the new graphene-making process—told The Huffington Post recently.

A honeycomb-like sheet of pure carbon only one atom thick, graphene is one million times thinner than a human hair, and yet 200 times stronger than steel. It's also an excellent conductor of heat and electricity and is stretchable, flexible, transparent, and impermeable.

And now scientists at Caltech in Pasadena, California say they have figured out how to make the stuff on an industrial scale—a break-through that could open the floodgates to a seemingly endless array of graphene-based products. “You could imagine something crazy,” Boyd told the Pasadena Star-News. “You could wrap a building in graphene to keep it from falling over.”





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**AFMS/SCFMS/AGMS ANNUAL SHOW**

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**The Austin Gem and Mineral Society, Austin, TX**  
Will host the American and South Central Federations Annual Show  
Make plans now to attend this Show  
You don't want to miss this one.



## **AUSTIN GEM AND MINERALS SOCIETY 53rd Annual Gemstone, Jewelry, Mineral & Fossil Show.**

### **GEM CAPERS**



This year's theme:  
**PEGMATITES**

October 23, 24 & 25, 2015  
Fri. & Sat. 9am -6pm  
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**MORE INFORMATION WILL BE PRINTED IN THE SCFMS NEWSLETTER IN FUTURE ISSUES**

**Show Time 2015-2016**

August 8-9	Baton Rouge, LA	Baton Rouge Gem & Mineral Society Fraternal Order of Police
August 15-16	Bossier City, LA	ArkLaTex Gem & Mineral Society Bossier City Civic Center, 620 Benton Rd. larockclub@gmail.com; www.larockclub.com
August 22-23	Jasper, TX	Pine Country Gem & Mineral Society Events Center
September 25-27	Humble, TX	Houston Gem & Mineral Society Humble Civic Center, 8233 Will Clayton Pkwy. 5 miles east of Bush Intercontinental Airport 1 mile east of Hwy. 59 www.hgms.org; showchair@hgms.org
October 9-11	Mount Ida, AR	Annual Quartz Crystal Digging Contest director@mtidachamber.com www.mtidachamber.com
October 10-11	Temple, TX	Tri-Cities Gem & Mineral Society Mayborn Civic Center, 3303 N. 34rd St. burnette@aceweb.com
October 23-25	Austin, TX	AFMS/South Central Fed. (SCFMS) Shows Palmer Events Center Exhibit Hall 900 Barton Springs Road susanp@austingemandmineral.org http://www.austingemandmineral.org/
November 7-8	Amarillo, TX	Golden Spread Gem & Mineral Society Amarillo Civic Center, 401 S. Buchanan St. finfran@midplains.coop
November 21-22	Mesquite, TX	Dallas Gem & Mineral Society Mesquite Rodeo Center Exhibit Hall 1800 Rodeo Dr.; bravo1bravo@sbcglobal.net http://www.dallasgemandmineral.org/
December 4-6	El Paso, TX	El Paso Mineral & Gem Society El Maida Auditorium, 6331 Alabama e-mail: gemcenter@aol.com

**Show Time 2016**

April 30-May 1	Waco, TX	Waco Gem & Mineral Club Extraco Events Center <a href="http://www.wacogemandmineral.org">www.wacogemandmineral.org</a>
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2015		August					2015
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
						1 10-5 Shop Open 10-12 Youth Section	
2	3	4 7:30 Board Meeting	5 10-3 Shop Open 1:00-3:00 Day Light Section <b>NO</b> Mineral Section	6 7:30 Archeology Section	7	8 10-5 Shop Open	
9 10-4 Shop Open	10	11 7:30 Show Committee	12 10-3 Shop Open 6:30 Gemstones & Faceting Section	13	14	15 10-5 Shop Open 10-12 Youth Section 1:30 Beading Section	
16 10-4 Shop Open	17 7:30 Lapidary Section	18 7:30 Paleo Section	19 10-3 Shop Open 7:30 Mineral Section Workshop	20	21	22 10-5 Shop Open	
23 10-4 Shop Open 30	24 31	25 7:30 General Meeting	26 10-3 Shop Open	27	28	29 10-5 Shop Open  <b>Show Dinner &amp; Auction!!</b>	

2015		September					2015
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
		1 7:30 Board Meeting	2 10-3 Shop Open 1:00-3:00 Day Light Section 7:30 Mineral Section	3 7:30 Archeology Section	4	5 10-5 Shop Open 10-12 Youth Section	
6 10-4 Shop Open	7 <b>Labor Day</b>	8 7:30 Show Committee	9 10-3 Shop Open 6:30 Gemstones & Faceting Section	10	11	12 10-5 Shop Open	
13 10-4 Shop Open	14	15 7:30 Paleo Section	16 10-3 Shop Open 7:30 Mineral Section	17	18	19 10-5 Shop Open 10-12 Youth Section 1:30 Beading Section	
20 10-4 Shop Open	21 7:30 Lapidary Section	22 7:30 General Meeting	23 10-3 Shop Open <b>First Day of Autumn</b>	24	25	26 10-5 Shop Open	
27 10-4 Shop Open	28	29	30 10-3 Shop Open				

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

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

10805 BROOKLET

HOUSTON, TEXAS 77099

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## **SCFMS**

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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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