



The **BACKBENDER'S GAZETTE**

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

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President's Message

*by Terrell William "Terry" Proctor
2009 HGMS President*

Each month as President, I am continually amazed at the amount of work some HGMS members donate to our Club. I think of the job Beverly Mace does in handling incoming membership for at least 600 members, in handling our Youth Section month after month for years, handling the distribution of show display cases, and addressing and mailing the BBG. This is a full-time job this member does. Have you thanked her for her efforts?



Then there is Phyllis George who spends many hours every month editing the articles submitted for the next month's BBG, seeing that things that must be in the BBG are submitted, and seeing that the articles and poetry written by our authors are submitted each year to the Bulletin Editors Contest (and yes, we always win far more than our share because we have an Editor who cares). She is the webmaster for our Web site and Treasurer and Board Representative for our Lapidary Section (have you thanked her for her efforts?).

Continued on page 4

Upcoming General Meeting Programs

July 28, 2009--Tom Wright Demonstrating Broom Straw Casting: If you want Tom to make a broom straw casting for you, be sure to let him know so that he will have enough silver to accommodate your request. He will be able to tell you how much the silver will cost.

August 25, 2009--Amber Way

September 22, 2009--Ron Gibbs on Agates: Ron is a man of many talents--newsletter editor and webmaster of the Charlotte, NC Gem & Mineral Club; he teaches how to make composite cabochons (they resemble intarsia) at the William Holland school; he's a graphic artiste extraordinaire, an extremely talented mineral photographer, and the author of a new book on agates. Ron will be explaining his technique for photographing agates and showing off his book that was published in March.

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This space is empty partially because no Section Chairs wrote articles. Frances Arrighi normally writes a column every month, but she called to say that she really didn't have an article to write for last month's Day Light Section meeting. Some Section Chairs are very regular in writing articles, but some have not written articles for a year or two. Writing an article about what will be going on at your next meeting might increase the meeting attendance quite a bit.

If you are planning to enter an article or poem in the 2010 Bulletin Editors' Contest, be aware that you now have only four months left to get your article in the BBG

This just in! Theresa Peek has set up the **Meetup Group**. It's goal is to gain new members by showing them what we're all about. Check it out at

<http://www.meetup.com/Houston-Gem-Mineral-and-Fossil-Group/calendar/10849933/>

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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>.

President's Message continued from page 1

There is Neal Immega who along with Tom Wright, Wayne Barnett, and others keeps the shop running, and saves HGMS thousands of dollars a year by putting diamonds on lapidary grinders. Neal leads field trips and does a jillion other jobs like bringing the HGMS Genie machines out for our first OUTREACH program, and then a few days later taking them out to a library for a program there. Neal and wife Inda are regular docents at the Houston Museum of Natural Science, and at our annual Show they run a kid's table for the HMNS.

Tom Wright has been our Clubhouse Chair and maintenance guy for the entire clubhouse for years, and he is one of the Shop supervisors along with other duties. There are Sigrid Stewart, our 2009 Show Chair, and Rick Rexroad, the Asst. Show Chair, who both put in large amounts of time lining up our dealers, planning the layout for the Show and the publicity, tickets, food for members and dealers, and many, many other things.

Rodney Linehan is our Treasurer who, as a CPA, does an outstanding job of keeping up our books and bank accounts, filing required reports, and making monthly financial information available to the Board. Matt Dillon serves as First Vice President, but his main job is lining up good programs for the monthly Membership meetings and seeing that the speakers show or that he has a substitute program at ready. Regina Gorman takes the minutes for both the Board Meeting and General Membership meeting every month, and she then has to write those up, learning new names as she goes, so that you, the members of HGMS know what happened if you miss a meeting and what your Board of Directors is doing. Art Smith for years has kept up our Library, and recently he converted all of the VHS tapes to discs to conserve a lot of library space and to better preserve our valuable programs.

I could go on and on as there are so many other HGMS members who are doing so much that at least some of you may not be aware of their services to our club. Our Section Chairs and Board Representatives do a bang-up job for the most part, and the Show Committee is full of folks who are going about their jobs like a well-orchestrated bee hive. That is why we have such successful shows each year (when a hurricane doesn't interfere—and we have now solved that problem for the future).

The new **Outreach Program** is off and running. On Saturday, June 27, HGMS District 3, together with the Proctor Museum of Natural Science and HolyTrinity United Methodist, jointly hosted the first Outreach program. Neal Immega brought two Genie machines out and HolyTrinity, and the Proctor Museum provided helpers and refreshments for the event. A number of children showed up to grind and polish pieces of agate donated by HGMS from leftovers in the Shop. The question was, "when are you going to do it again"?

Some HGMS members are still asking me what I mean by HGMS Districts. There are EIGHT HGMS districts, and you can tell in which District you live by taking out your voter registration card, flipping it over and seeing in which JP Precinct you are. Yes,

we are lazy, and rather than set up our own districts, we simply adopted the Harris County JP District geographical area and number as the HGMS Districts.

I have had some HGMS members contact me to say that they want to help get the program going. I have several in the Katy Area (District #5) who are interested. We will have some sheets at the HGMS Clubhouse for folks in various Districts to see who else in their District wants to help promote Earth Science education and jewelry making in our **Outreach Program**.

Call me to let me know of your interest in the Outreach Program, and I will try to match you up with others in your District.

Terrell William "Terry" Proctor, President, Houston Gem & Mineral Society, Inc.—Law office phone (713) 453-8338; FAX (713) 453-3232; e-mail: auraman@swbell.net; cell phone (only as a last resort please) (713) 453-1300.

Seven HGMS Members Notified by AFMS They're in the Top Ten

by Phyllis George
HGMS Newsletter Editor

Two days ago I discovered a postcard that had dropped between the driver's seat and the console in my car. It was dated June 13 and was from Linda Jaeger, the lady in charge of the AFMS Bulletin Editors' Contest. She was notifying me that seven HGMS members have ranked in the top ten in their contest categories (see table below). The results will be announced Sunday morning August 2, during the Breakfast with the Editors and Webmasters at the AFMS/NFMS Show being held in Billings, Montana. I plan to attend, so I may be bringing some HGMS goodies back to the club.

That postcard also let the cat out of the bag. To be forwarded to the AFMS contest, entries must rank in the top three in their regional federation contest—in our case the South Central Federation of Mineral Societies (SCFMS). The SCFMS show is being held in Temple, TX October 10–11. The regional contest results will be announced October 10 during the Breakfast with the Editors and Webmasters.

Name	Category	Title	Issue
Albert J. Robb III and George Wolf, Sr.	Advanced Adult Article	Neogene Sharks Teeth from Along the Texas Gulf Coast	August
Denise Bicknell	Adult Article	Herb Bastuscheck	October
Phyllis George	Adult Article	Visit to the Black Hills Institute—Home of Stan and HMNS's Wyrex	August
Terry Proctor	Adult Poetry	A Rock Is a Rock Is a Rock	November
Neal Immega	Features	Lake Texoma 2008—Ammonites, Urchins, and Oysters on Memorial Weekend	July
Owen Martin	Features	Faux Pas, uhh, Rather Palm. "Faux Palm," that is.	April

Two Hardworking HGMS Members Are Down But Not Out

by Phyllis George

July 13, 2009

Art Smith and Tom Wright, two long-time HGMS members, are both battling medical problems. Tom has been the Clubhouse Chair for many years, overseeing the building and all the physical equipment. Tom makes sure that anything needing maintenance is attended to, and he and other dedicated members frequently perform the necessary maintenance themselves. Tom hasn't been feeling well for the past several weeks. He was in the hospital a few days this past week, but he's back home resting now, and Beverly says he is in good spirits. He is still having respiratory problems and is on oxygen. He would enjoy hearing from his friends. Please call the house phone, not Tom's cell phone.



For many years Art Smith has been the HGMS "go-to guy" for mineral identification, and he's also the club librarian. He and wife Nancy just finished reorganizing and condensing the many books, DVDs, etc. in the library. Due to Art's efforts, the HGMS library is one of the best earth science libraries in the state, and possibly in the US.

Ever since I became the HGMS Editor in January, 1996, Art has submitted an article *every month* for publication in the BBG. He is an editor's dream. He missed last month and this month, but I have no complaints. He's earned a rest.

Art also spent much of his time making labeled sets of rocks and minerals for schools and for our show in November. These were paid for by Conoco's annual donation to the club.

Art is battling a cancer in his cheek that has returned. He's had two chemo treatments out of four, and Nancy says Art would say he's "coming along." Always thinking about HGMS matters, Art was putting mineral sets together for the show when I called. He would enjoy hearing from you. Keep track of how he's doing at <http://www.carepages.com/artsmithcarepage/>. I accessed the page just before writing this article, and I must admit getting there can be confusing. Click on the word "Visit" and sign in. When that is successful, type "artsmithcarepage" in the blank box near the top. If you're lucky, it will take you to it. Once you've successfully accessed the "artsmithcarepage," it will from then on list that page for you to click on. Prior to that point, it can be a challenge. I captured the page as a PDF and converted that to a jpeg graphic, and I'll see how successful I am at putting it in the BBG. Turns out that I needed to cut off the right 1/3 of the page in order to make the type large enough to read.



Welcome to artsmithcarepage

Quick status:

My frappes have cream, ice cream, banana, and protein powder - he's taking in 3000 calories a day, and so far has lost another 3 pounds. Frustrating! Cindy, GO ROCKHOUNDS!

Latest Updates

Monday noon and counting

Posted 3 hours ago

Made it through a less than exciting weekend - I guess that's sometimes good, not having too much excitement (kind of depends on what kind). Art's felt pretty good - I'm guessing that because he's been busy putting together mineral sets and labeling them to sell at the club show in November. Houston Gem and Mineral Society (from now on to be referred to as HGMS - get it?) puts on a big show at one of the big facilities in the Houston area every year. They have some really neat displays, a lot...

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Friday afternoon - how about happy hour?

Posted Jul 10, 2009 3:53pm

Thought I'd better send off an update going into the weekend. My daughter asked yesterday what our plans were for the weekend, and I said "yeah, right!" Actually, things are fine - we took a drive out to Katy Mills and walked the whole mall. Art did well, and didn't even fall into the chair when we got home - that's a good thing! It's 101 outside, so we're very glad he got a new AC a few months ago - it's doing a good job, and we're just killing time 'til the next round of treatments. He gets...

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Wednesday morning

Posted Jul 8, 2009 8:59am

Another 3 pounds down - getting worried! So good to hear from all of you (you know who you are :-)) - keep 'em coming, and thanks!) Art is pretty unsteady today - still hoping we can meet friends for lunch, but we'll see. Sure would be a lot better than watching the endless MJ drive!! Hope you're all doing well - we're surviving, and very grateful to have one another. God continues to smile on us and to remind us of how very much he loves us. Later!

Love, Nancy
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Link directly to this page:

<http://www.carepages.com/carepages/artsmithcarepage>

Continents Moving Around—You Have To Be Kidding

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Member Houston Gem & Mineral Society

Curator Proctor Museum of Natural Science

From earliest times, humans have known about volcanoes, tsunamis, earthquakes, and other natural phenomena. However, they didn't know what caused them. Only recently has a really crazy idea been recognized as reality. Could continents move? Of course not.

On the day after Christmas, December 26, 2004, 220,000 people died and billions of dollars of damage was done from the deadliest tsunami in recorded history. This all happened within hours and was wreaked upon the coasts and several kilometers inland on the nations of Indonesia, Sri Lanka, India, Thailand, Somalia, Myanmar, Malaysia, and the Maldives. This tsunami was caused by an earthquake far out at sea.

Exactly a year earlier, December 26, 2003, 43,000 people died in the Bam area of southeastern Iran, when a 6.6 magnitude earthquake occurred there. On June 15, 1991 there was a huge eruption of Mount Pinatubo in the Philippines covering large areas of the Philippines with volcanic ash including the U.S. Air Force base there.

When I was taking the Advanced Biology Class in 1953 at Tulsa University, Professor Blair asked us if we thought there was anything strange about the appearance of the Western coast line of Africa and the Eastern coastline of South America. In looking at the map, we saw that they looked as if they matched up somewhat. What a coincidence this was.

But it wasn't a coincidence. Professor Blair explained that there was a fairly new concept that the continents had moved around over the Earth, and at different periods of time over very long geological ages, they had bumped into each other, parted company, and moved around the globe. Some even went under others, then were forced back into what we now call the mantle, and still others were pushed up causing the mountain ranges.

This seemed impossible—crazy talk. Fascinating, but how could it be that something like the entire North American continent could once have been at a different location on Earth. It just sounded like some wild theory that no one could really believe. But years of study have progressively shown that is exactly what has happened. Welcome to the theory of "Plate Tectonics" and its forerunner, "Continental Drift."

How could vast expanses of land masses move around? Apparently the first hypothesis that continents could move or drift around was advanced by **Abraham Ortelius** in 1596, and later the more fully developed theory was put forth in 1912 by **Alfred Wegener**, a German meteorologist. These theories were referred to as "continental drift" in the belief that present-day continents were fragmented pieces of preexisting larger landmasses (supercontinents). However, during the 1960s there was sufficient geological explanation for the movement of continents and their formation and destruction for the theory of plate tectonics to evolve.

In geologic terms, a *plate* is a large, rigid slab of solid rock. The word *tectonics* comes from the Greek root “to build.” Combining these two words gives us Plate Tectonics, which means that the Earth surface is composed of plates. The *theory of plate tectonics* states that the Earth’s outermost layer is fragmented into a dozen or more large and small plates that are moving relative to each other as they ride atop hotter, more mobile material, according to the USGS Web site.

The Earth is composed of tectonic plates of different sizes, which are all moving in different directions, at different speeds, and with different results in the travel. There are considered to be eight major and many minor plates. The major plates are: African Plate covering Africa; Antarctic Plate covering Antarctica; Australian Plate covering Australia; Indian Plate covering Indian subcontinent and a part of the Indian Ocean; Eurasian Plate covering Asia and Europe; North American Plate covering North America and north-east Siberia; South American Plate covering South America; and the Pacific Plate covering the Pacific Ocean. All of these are Continental plates except the Pacific Plate which is an Oceanic plate.

Notable minor plates include Arabian Plate, Caribbean Plate, Juan de Fuca Plate, Cocos Plate, Nazca Plate, Philippine Sea Plate, and the Scotia Plate. There are a number more.

The Earth is composed of a system of interconnected components, each of which has an effect upon each other as they interact. These components are generally considered to be **Atmosphere**, i.e. gases and precipitation that act to weather rocks; **Hydrosphere** is running water and glaciers which erode rocks; **Biosphere** is the organisms that break rock down into soil; **Lithosphere**, which is composed of the tectonic plates; **Mantle**, which is the Earth’s layer under the Plates; **Outer core** which is under the Mantle and which supplies the heat to cause convection in the Mantle; and the **Core** of the Earth, which is believed to be mostly a very hot iron core in the center of the Earth. Convection cells within the Mantle contribute to the Plates, i.e. the Lithosphere, moving around and in the process recycling portions of the Lithosphere and allowing creation of new portions of the Lithosphere.

Alfred Wegener, who was a German meteorologist, in 1915 published a book called *The Origin Of Continents and Oceans*. He is credited with the **continental drift** concept. In his book, he advanced the theory that all landmasses were at one time collected into one huge land mass called **Pangaea**. This is from Greek and means “all land.” He proposed that these landmasses were continually moving, and his theory was that as **Pangaea** broke up, the various portions moved to different locations on the surface of the Earth until each arrived at its present location.

Others before Wegener who noted that the coasts of Western Africa and Eastern South America seemed to match included Abraham Ortelius, mentioned above, and Francis Bacon, Benjamin Franklin, Snider-Pellegrini, Roberto Mantovani, and Frank Bursley Taylor. However Wegener was the first to put forth significant fossil and paleo-topographical and climatological evidence to support the observation made by him and predecessors. Wegener’s theory didn’t account for the force which drove “continental drift.”

Wegener was vindicated after his death in 1930, when in 1947 a team of scientists led by Maurice Ewing using a research vessel *Atlantis* with an array of instruments provided by the Woods Hole Oceanographic Institution confirmed the existence of a rise in the central Atlantic Ocean. They discovered that under the sediment was not a layer of granite which is the main rock of continents, but rather basalt, which is igneous rock of volcanic origin. They also found that the oceanic crust is thinner than continental crust.

Later observations showed that under the ocean there were zebra-like stripes of magnetically different rock, with one stripe being one polarity and the next being a reversed polarity. This became known as magnetic striping. It was also discovered that the rocks in the tips of some continents matched the rocks in another continent, meaning that at some time they had to have been joined. Parts of Scotland and Ireland contain rocks similar to those in Newfoundland and New Brunswick. Parts of the Caledonian Mountains of Europe and parts of the Appalachian Mountains of North America are very similar in structure and lithology.

The difference between the theory of “continental drift” and “plate tectonics” is this. Continental drift considered that continents drifted through oceanic crust. Harry Hammond is credited in a 1962 paper with the concept that an ocean basin and its adjoining continent moved together on the same crustal plate. In 1962 Robert R. Coats of the USGS described the subduction in the Aleutian Islands.

It is believed by some that at one time there was a supercontinent called Rodinia which is thought to have formed about 1 billion years ago and to have embodied all of the Earth's continents. It was broken up into eight continents around 600 million years ago. Later the eight continents re-assembled into another supercontinent, called Pangaea as mentioned above, which then broke up into Gondwana and Laurasia.

In the process of Pangaea breaking up, India, Australia, South Africa, and South America were together in the Southern hemisphere and were jointly called **Gondwanaland**. The Northern hemisphere landmass was called **Laurasia** which consisted of North America, Greenland, Europe, and Asia (*except for India*).

The plates have boundaries, some of which move away from each other and some of which move into each other. There are Oceanic-Oceanic Boundaries, Oceanic-Continental Boundaries, and Continental-Continental Boundaries. As plates move toward each other, they are called convergent boundaries. As they move away from each other they are called divergent boundaries. Different things happen between convergent and divergent boundaries.

When plate boundaries move away from each other, something has to fill in the space between the departing continents. New oceanic lithosphere is formed as the crust, i.e. the lithosphere, is extended, thinned, and fractured, and magma from the partial melting of the mantle is forced up. On Earth there are “hot spots” in the oceans which theoretically remain about the same place as a tectonic plate moves over it. This “hot spot” allows magma to come to the surface of the plate in the form of a volcano, thereby in time creating a new island. This is how the Philippines, Hawaii, Aleutians,

Japan, and Indonesia islands were formed, and another “hot spot” is Yellowstone National Park.

When plate boundaries move toward each other and meet with all the immense mass of a continent-continent or ocean plate-continental plate meeting with the pressure of the movement, something has to give. One plate is subducted—that is, forced under the other. Oceanic plates are denser than continental plates, and therefore Oceanic plates are subducted or pushed down and under the continental plate along the oceanic-continental plate boundary. As the one plate is pushed down and under it can raise up part of the plate that remained above the subduction, and some distance inland from the Oceanic-Continental subduction point, mountains can be raised up. This is how the Rocky Mountains were formed fairly recently and the Allegheny Mountains much longer ago.

Prior to August, 1996, there was believed to be an old inactive seamount (an undersea volcano that has not breached the surface) about 15 miles southeast of the Big Island of Hawaii, along with many other seamounts of old volcanoes. In the 1970s it appeared that this seamount may be an active volcano, and an expedition was made to study this area. Then in August, 1996, Loihi volcano rumbled to life again with gusto and has become the World's most active volcano since then. It is creating the newest underwater island in the chain of volcanic islands in the State of Hawaii. However, don't make travel plans just yet as it is believed that it will 50,000 years or so before Loihi will break the surface.

As plates or parts of plates move away from each other they can leave rift valleys, such as the **East African Rift Valley**, where paleontologists and anthropologists have found many of the earliest human remains. In the oceans, this divergence can create the deep ocean trenches where there are plumes of chemicals flowing out of hydrothermal vents, called black smokers. These black smokers emit several minerals including zinc, copper, and iron precipitated from them with other mineral components.

Once the concept of the continental drift began to take hold, there were many examinations, studies, and tests to determine the authenticity of this theory. One such study was on the various locations of magnetic north from time to time. It is known that when a volcano erupts, if any of the material contains iron in a form that is magnetic, as the volcanic material cools and hardens, the magnetic properties therein will align to the magnetic north pole of that time. However the magnetic north pole has wandered around a lot over the northern part of the Northern hemisphere. It is understood that in a few years it will be in Siberia instead of the North American continent. Therefore, checking the alignment of the magnetic material in volcanic rock can be an aging device. By testing the age of various rocks and their magnetic alignment at that time, one can determine what continents were where at which time and therefore if they were closer or further away from another continent at the time that rock formed.

At times in history, there have been magnetic reversals, i.e. the north pole became the south pole and vice-versa. The Earth didn't spin 180°, but the polarity of the Earth simply reversed, which is called a magnetic anomaly. Leading up to and away from a magnetic reversal of the magnetism of the Earth, there can be little magnetism, which

means such an event could raise havoc on shipping and magnetic compasses as well as many other problems. These magnetic anomalies are very important for telling when certain events occurred and when certain continents were located where at the time. There are a number of other tests, some of which, like the age of sediments, are less accurate than the magnetic anomalies.

The anomalies are important to tell how fast certain continents are moving and in what direction. Anomaly 31 in the Mid-Atlantic Ridge occurred 67 million years ago, and hence the distance between the present location of the Mid-Atlantic Ridge and Anomaly 31 shows a movement of three centimeters per year for 67 million years since it occurred. The Anomalies are not only used to calculate the speed of plate movement, but also to determine their location in the past.



Force of Earth movement caused folded rock in Ada, Oklahoma. Photo by author, June 1999

Another means of telling that certain continents were once together is the finding of certain fossil animals on different continents of certain ages, millions of years old. Birds and some plants can traverse continents. However animals, with huge oceans presently between the continents, could not have appeared on both continents unless those continents at some ancient time had been joined or very close to each other. The finding of evidence of tropical type flora and fauna in the Antarctic tell us that at one time it wasn't where it is now. The fact that animals and plants of the same species have been found in South America, Africa, India, Antarctica, and Australia indicates at some time, in prehistoric time, these five land masses were together.

Scientists have also been able to line up many instances where the mineral and rock in

one continent matches that of another continent so closely that they had to be connected at one time.

Plate tectonics not only is responsible for the major features of the Crust of the Earth, but also for the location of natural resources. Petroleum occurs all over the Earth, but more than 50% of all proven reserves are credited with being in the Persian Gulf region. Past history, i.e. plate tectonics and what lived and died on which area of which continent and how such was treated after death, have a lot to do with the wealth of nations and their people—not luck. Many mineral deposits, such as gold, silver, tin, lead, copper, zinc, molybdenum, and other important metals come from the black smokers as the tectonic plates depart. Also similar metals are released in the process of the subduction of one plate under another, causing the subducted plate to melt, releasing the contents of that plate as molten rock from the heat and pressure of being subducted.

Oh, by the way. In 1991, paleontologists discovered the *Cryolophosaurus ellioti*, a previously unknown dinosaur species and the only one found on the continent of Antarctica. It was located on Mount Kirkpatrick, 600 km from the present day South Pole. It was a carnivorous dinosaur probably similar in appearance to the *Allosaurus* found in North America. It lived about 200 million years ago when Antarctica was part of Gondwana and had a climate similar to the Pacific Northwest of the U.S. Australia also had Polar Dinosaurs.

Some things survive the folding, bending, melting and pressure as these tectonic plates move around the Earth. Some contend that scientific teaching is not true as there are missing links. The amazing thing is with all the tectonic movement, folding, bending, mountains being uplifted and eroded away, rift valleys being created, and continents banging into each other, there are so many fossils of life past that let us know what was on Earth millions of years ago. In spite of all the power of the Earth to destroy the evidence, we still have these things to study, enjoy, use, and marvel at.

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Loihi Volcano from Web site <http://www.soest.hawaii.edu/GG/HCV/loihi.html> ? Ken Rubin, krubin@soest.hawaii.edu

Only In Hawaii from About.com, Part 1: Islands Unique in All the World by John Fisher, About.com from Web site http://gohawaii.about.com/cs/onlyinhawaii/a/only_in_hawaii.htm

Geology: Plate Tectonics from Web site <http://www.ucmp.berkeley.edu/geology/tectonics.html>

Historical perspective [This Dynamic Earth, USGS] from
<http://pubs.usgs.gov/gip/dynamic/historical.html> and
<http://pubs.usgs.gov/gip/dynamic/tectonic.html> and
<http://pubs.usgs.gov/gip/dynamic/wegener.html> and
<http://pubs.usgs.gov/gip/dynamic/inside.html> and
<http://pubs.usgs.gov/gip/dynamic/polar.html>

Web site

General Meeting Minutes

June 23, 2009

by Regina Gorman, Secretary

Home: 281-829-6116; r4regina@gmail.com

Terry Proctor called the meeting to order at 7:30 pm.

Karen Burns moved that the Minutes of the May 2009 General Meeting be approved as published in the BBG, Gary Gray seconded the motion, and they were approved by unanimous vote.

Treasurer: Rodney Linehan, who was not in attendance, reported to Terry Proctor that HGMS is in good financial shape.

Show Committee: Sigrid Stewart expressed thanks to all the members of HGMS who worked at the HGMS table at the recent InterGem Show.

Old Business

Outreach Program: Terry Proctor announced that a program on cutting and polishing agates will be held on June 27, 2009, at Holy Trinity United Methodist Church from 10:00 am until 2:00 p.m. Neal Immega will bring shop equipment to set up for the participants to use along with a collection of rocks. This location is in District 3, one of the eight Districts in Harris County in which HGMS plans to hold the Outreach Programs. There is no charge for these programs, and everyone is encouraged to bring their own rocks. Members are encouraged to attend, volunteer, and support this Outreach Program.

New Business

Future Programs: Matt Dillon reported the following programs are scheduled for the General Meeting:

July 28 Silver Casting Workshop Tom Wright. Contact Mary Ann Mitscherling to order silver.

August 25 Amber Way

September 22 Ron Gibbs

October 27 NASA

Door Prize: Provided by Neal Immega

Show and Tell: John Anderson brought a nodule he collected in the Chocolate Mountains.

Sigrid Stewart showed a Crazy Lace agate specimen she collected near College Station, and Steve Blyskal brought talc.

Phyllis George brought several specimens from a visit to a relative who runs tours into the Kansas Salt Mine in Hutchinson, Kansas. She exhibited road salt, re-crystallized salt, crystalline, Silvite, Anhydrite and base rock, to name a few. Terry Proctor stated that he had salt specimens acquired from a prior visit with his uncle in Kansas, and Sigrid Stewart said she has salt specimens from her hometown in Kansas.

Charlona Ingram brought two Herkimer Diamond (quartz) specimens from a collection owned by the Houston Zoo and procured from the Herkimer Mine in New York.

Sunday Bennett announced that she has free cats and kittens ready for good homes from the estate of a woman she knew.

Because of overcrowding in the shop on the weekends, Mary Ann Mitscherling has volunteered to open the shop for members twice per month during the week. She will open the shop at 5:00 p.m. before the General Meeting on the fourth Tuesday of each month, and again at 5:00 p.m. before the Lapidary Meeting on the third Monday of each month.

Beverly Mace noticed that the shop lights were left on, and asked that members using them be vigilant about turning them off when finished. Terry Proctor also reminded the members to clean up after themselves when using the HGMS shop facility.

Program

A program entitled "Diamonds are Forever" was presented by Neal Immega, Inda Immega, and Jill Rowland. While slides showcased diamonds now on display at the Houston Museum of Natural Science, the trio explained how diamonds were formed, the differences between natural and manmade diamonds and how to tell which is which, and the history of faceting diamonds and gemstones including how modern shapes and cuts evolved.

The meeting was adjourned at 9:30 p.m.

Ventilate!

by Ed Wengerd

from Gem Cutters News 5/2009

Some lapidary materials such as malachite and coral can be toxic when being worked. Always remember to ventilate your workspace, use lots of water, and to be extra safe, wear a dust mask. Ideally, the mask should be the kind with exchangeable filters. Since we don't always know the composition of the materials we're working, it's not a bad idea to follow the suggested safety guidelines every time you saw or cut and polish a cabochon or slab a chunk of rock.

Board of Directors Minutes

July 9, 2009

by Regina Gorman, Secretary

Home: 281-829-6116; r4regina@gmail.com

X	President	Terry Proctor	X	Faceting Rep.	Sunday Bennett
	1 st Vice President	Matt Dillon	X	Lapidary Rep.	Phyllis George
X	2 nd Vice President	Beverly Mace	X	Mineral Rep.	Denise Bicknell
X	Treasurer	Rodney Linehan	X	Paleontology Rep.	Rick Rexroad
X	Secretary	Regina Gorman		Day Light Rep.	Nancy Fischer
	Beading Rep.	Diane Sisson	X	2009 Show Chair	Sigrid Stewart

A quorum was present, and the meeting was called to order at 7:30 p.m. by President Terry Proctor.

The June 9, 2009 Minutes of the Board of Directors meeting were printed in the Backbender's Gazette (BBG). Denise Bicknell moved that the minutes be approved as published. Rick Rexroad seconded the motion, and it passed by unanimous vote.

Treasurer's Report: Rodney Linehan had previously e-mailed all members of the Board of Directors a copy of the Treasurer's Report for July 2009. The report reflected solvency, and there were no questions or comments for discussion.

Faceting: During the June Faceting Section meeting, Wayne Barnett announced that effective immediately, he was resigning as the Faceting Section Representative to the Board of Directors. Sunday Bennett is now the new Faceting Section Representative.

Show Committee: Co-Chairman Rick Rexroad reported that he has all the dealers lined-up although there is some question about whether one dealer will return this year. He states that his main concerns now are recruiting volunteers to work at the show and in the Hospitality Room.

Hospitality: Rick said that one possibility for providing food for the Hospitality Room is to buy frozen entrées, and another is asking members who live close to the Humble Convention Center to cook food and bring it to the Center. Denise Bicknell suggested that since HGMS is a tax-exempt organization, we should solicit private and corporate donations for the food.

Late-Breaking Club News

Are you getting e-mails about HGMS activities? If not, contact n_immega@swbell.net and let him know that you want to be on the list.

Volunteers: Phyllis George said Mary Ann Mitcherling will be using the Web site for scheduling volunteers. There is a paragraph on the Show page (right under the address of the show) discussing the need for volunteers at the show. A link in the paragraph opens an example Excel spreadsheet displaying the volunteer positions that were needed during Friday of the 2008 show. People wishing to volunteer to work at the show can e-mail Mary Ann at ShowVolunteers@hgms.org. Current versions of the Friday, Saturday, and Sunday Volunteer sheets will be placed on the Web site as they become available.

Sigrid mentioned that she needs volunteers for the HGMS table at another InterGem Show.

Grand Prize: There was a discussion about the Grand Prize or Prizes for this year's show. The budget for this item is about \$200, but last year Amber Way donated amber jewelry worth about \$425, and Terry Proctor donated a dinosaur track worth about \$120. Rick Rexroad said he talked with Jemco about donating a Grand Prize, and Rodney Linehan suggested talking with all dealers to see if one would like to donate the Grand Prize and receive the resulting publicity. Terry Proctor said he would thank Amber Way again for last year's Grand Prize and let them know that since they were so generous last year, we aren't soliciting them again for this year, but if they are interested in participating again, to let us know.

Also Sigrid Stewart offered to donate her 1962 Cadillac to the Club (this wasn't for a Grand Prize but is just a donation to HGMS—it needs a little fixing up to be ready to run). The Board will consider how to accept this offer and will consider having an auction or other means of raising funds from this potential donation.

NASA: Terry Proctor reported that earlier in the year Dr. Allen, head of the extra-terrestrial materials for NASA, indicated that by asking early he thought HGMS might be able to have a Mars rock this year. However, in a recent e-mail Gary Lofgren, the Moon Rock curator for NASA, indicated that NASA would only be able to be at our Show for one day. Gary did agree to come to the October General Membership meeting and present another program from NASA. Terry will talk with both Dr. Allen and Mr. Lofgren to see if we can get back on schedule for a three-day appearance at our Show and check the status of us having a Mars rock on display.

Old Business

Educational Outreach Program: Terry Proctor reported that the first outreach program was a success. It was held in District Three at Holy Trinity United Methodist Church in the North Shore area last Saturday. There were about 15–20 people in attendance including the Preacher, church members, and HGMS volunteers. The Sentinel is the local newspaper serving District Three, and it featured this event in three separate articles.

AMFS Endowment Fund: Terry stated that there have already been four items donated to the AMFS Endowment Fund. Upon instructions by the Board at the April Board meeting, Rodney Linehan, Treasurer, sent a check for \$300 to the Chairman, Bill Pattillo. By the time the check arrived, Bill no longer had enough raffle tickets to

cover the amount of the check. He designated his remaining tickets as belonging to HGMS and allocated the unused portion of the check as a direct donation to the AFMS Endowment Fund.

Building Fund: Terry Proctor is composing a letter soliciting grants and donations that will be sent on HGMS letterhead and addressed to a large number of oil and chemical companies and oilfield suppliers.

Clubhouse: Tom Wright is incapacitated and installation of the parking lot stop blocks has been put on hold.

BBG: New Membership Applications with a place for the member to designate the format of the BBG he or she wishes sent (by US Mail or by e-mail, or both formats, or no BBG) are now available on the Web site. Some have been returned by new members. Beverly Mace will give a report later on what people are choosing.

Electric Service Provider: Phyllis George and Rodney Linehan discussed StarTex as a possible provider with a good rate, but we need to be quick to lock it in.

Scholarship: Terry Proctor said that Scholarship discussions need to be tabled until next month, and there was no objection. He did confirm that the decision was made to award a scholarship to a Junior College graduate who will be going on to a University to get a 4-year earth-science related degree.

Programs: Terry Proctor stated that NASA is still slated to provide the October program. A discussion ensued about other possible programs for the General Meeting.

New Member Orientation: Presenting groups need to be set up. There was a discussion about how to implement these groups and the information that needs to be presented. It was the general consensus of the Board that Saturday would be the best day of the week for new members to attend an indoctrination session with a tour of the Clubhouse. There is always a lot of activity in the club house on Saturdays, and people will be using the equipment. The first date for the New Member Orientations is August 29 from 1:30 pm to 3:00 pm

New Business

Terry Proctor stated there is a listing of government grants at <http://www.grants.gov>, and he will be checking out the Web site.

Phyllis George asked if the September Board Meeting might be rescheduled. She is having surgery September 1, the usual date for the Board Meeting. After a short discussion, it was agreed that the September Board Meeting will be held early on August 29 at 3:30 p.m. following the New Member Orientation.

Denise Bicknell requested that the Secretary submit a draft of the Minutes to the Board Members and Representatives in attendance for correction and clarification before publication in the BBG. The Friday following the Board Meeting was suggested as a good target date.

As there was no other business to come before the Board, Denise Bicknell moved to adjourn the meeting, Phyllis Geor ge seconded the motion, and the meeting was adjourned by the President at 9:05 pm.

AFMS--Ted's Safety Corner
by Ted Reith, AFMS Safety Chair
Clean Up Your Act—Safely, Please
from AFMS Newsletter 6–7, 2009

The lovely, sparkly, near-pristine specimens many of us “collect” at rock, gem, and mineral shows hardly ever are found in that condition in Nature. Those who collect “in the wild” will have some cleaning chores in front of them, whether planning to sell those specimens or add them to a personal collection.

In almost any venture, simple is better than complex, and less hazard is better than more. However, if you truly know the specimen you have and the nature of the surface contaminant, then by all means use complex cleaning methods with hazardous chemicals (if that is the needed methodology), but do so safely.

An important key to any cleaning is to know your specimen and know its contaminant. This means to know each in terms of Mohs hardness and chemical make-up. Hardness will guide one in mechanical cleaning options, while the chemistry will dictate specific cleaning materials.

Cleaning methods, from simple/safe to complex/less safe, may be outlined as follows:

- Soak in or clean under running water, using a bristle brush.
- Same as above, but add a cleaning agent, such as household detergent, to the water. This will help “wet” the surface contaminant and allow it to be flushed away more readily.
- If appropriate, use a brass brush (Mohs 3.5–5) or steel dental pick (harder). This is where knowledge of the base mineral hardness is useful. The tool needs to be harder than the contaminant, but less hard than the base material. Of course, test on an obscure area first to confirm suitability.

One very interesting cleaning option I saw is to use Soft Scrub cleaner (ground calcium carbonate in a detergent base) and a battery-powered toothbrush. To give credit, the following link provides an excellent write-up: <homepage.mac.com/rasprague/PegShop/extras/brush/brush.html>.

Use equipment such as ultrasonic cleaners (good for more fragile specimens) or small



sand blasters to remove tough scale on minerals, while following all manufacturer use and safety recommendations.

Use an acid/water solution for those known, hard-to-remove contaminants.

Oxalic acid and hydrochloric (Muriatic) acids are typically used for the cleaning of quartz. Both are available in hardware stores. Another useful link for specific procedures using acids is at: <www.rockhounds.com/rockshop/john_betts/clean1.html>.

The proper care and handling of acids can be accomplished using applied knowledge. The hazard associated with any acid is a function of the acid type and its concentration (% strength in water). If you put milk on your corn flakes this morning and used oil and vinegar on your salad for lunch, you just ate two acids. Milk contains lactic acid, and vinegar is a dilute (5%) solution of acetic acid.

Several notes are appropriate regarding the two acids frequently used in mineral cleaning.

Oxalic Acid: Though classified as a weak organic acid, it is much stronger than acetic acid. It's primary hazard is skin irritation, with greater hazard if taken internally by mouth or by breathing (classified as a poison). Recommended protective equipment includes gloves, apron, goggles, and respirator when used in poorly ventilated areas. Full MSDS info at: <www.jtbaker.com/msds/englishhtml/o6044.htm>.

Muriatic Acid: AKA Hydrochloric acid – an extremely strong mineral acid with serious safety concerns. Severe damage can result from tissue or eye contact. Inhaling the fumes or ingestion may be fatal. I've used this myself, but wore butyl rubber gloves and apron, face shield, and used it outdoors on a non-windy day to minimize inhalation concerns.

Typically available commercially from 20–38% concentration, you **MUST** add the acid to water if dilution is needed, never add water to acid.

MSDS: <www.jtbaker.com/msds/englishhtml/H3880.htm>.

When using any acid, note that spills or solutions remaining after use should be neutralized with an alkaline material. Some fairly common household items to do that would include soda ash, lime, or baking soda. How do you know when you have enough neutralizer? You can use the old high school chem lab stand-by—litmus paper. Or get some red cabbage at the grocery, and use the juice as an indicator. At pH 2 (acid), it will be red; at pH 12 (alkaline), it will be greenish-yellow. At neutral pH of 7, it's blue.

Happy...and safe cleaning.

Nominating Committee on the Pr owl

by Soap Box Sally - AKA Trudy Martin

from Calgary Lapidary Journal 3/2009

Who? Me, run for office? No Thanks!
The President's job, that should be Frank's.
Listen now, I have a few suggestions to make ...

How about a display case ... 'twill only take
a couple of meetings for someone to make.

Program Chairman? I don't see how
I can manage that position just now.
But how about getting good speakers this year,
Have a demonstration on silver work here.
You bet, I'll attend every one, never fear.

Bulletin Editor? Oh, I can't write
a decent article; mine sound so trite.
But can't we have more rock cutting tips,
A column for news, and some humorous quips ...and
Write something about your rock hunting trips?

Display Table? I like it fine.
Oh, no, that selenite isn't mine.
My minerals and gems are all packed away.
Anyway, I was much too tired today.
Did you ever realize how much rocks weigh?

I'm in good standing, have paid my dues;
Never fail to give my views.
Meeting night comes, and there I will be.
I'm present, please note, for all people to see.
Gee, don't you wish
there were more members like ME ?

=====

Members are urged to put their best foot forward and
offer their time and talents for the betterment of the club.
We each have our own special ability that can be put to
good use. I can't haul tables and chairs but I can sure
type up a storm when it's time to do the Journal.
What can you do to help the club and the show?

Show Time 2009

July 30-August 2	Billings, MT	AFMS/NFMS show; Billings G&M Club Montana Trade Center, Holliday Inn Grand Montana, 5500 Midland R. Doug True, dtruefossils@yahoo.com
August 8-9	Baton Rouge, LA	Baton Rouge Gem & Mineral Society Fraternal Order of Police 10777 Greenwell Springs Rd. paul_broussard@msn.com
August 15-16	Bossier City, LA	Ark-La-Tex Gem & Mineral Society Bossier Parish Convention Center 620 Benton Road; Bossier City, LA 71111
August 22-23	Jasper, TX Note changed location!	Pine Country Gem & Mineral Society The Event Center, 6258 Hwy. 190 West Jonetta Nash: jonetta.nash@yahoo.com
September 5-6	Arlington, TX	Arlington Gem & Mineral Society Arlington Convention Center cessnak@ont.com; www.agemclub.org
September 19-20	Richardson, TX	Pleasant Oaks Gem & Mineral Club Show Cancelled for foreseeable future
September 26-27	Denison, TX	Texoma Rockhounds Denison Senior Center
October 10-11	Temple, TX	SCFMS/Tri-City Gem & Mineral Society Mayborn Civic Center, 3303 N. 3rd St.
October 16-18	Victoria, TX	Victoria Gem & Mineral Society Community Center
October 23-25	Austin, TX	Austin Gem & Mineral Society Palmer Events Center
November 07-08	Midland, TX	Midland Gem & Mineral Society Midland Center
November 13-15	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
November 21-22	Mesquite, TX	Dallas Gem & Mineral Society Resistol Arena Exhibition Hall

2009		August				2009
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 10-5 Shop Open 10-12 Youth Section
2	3	4 7:30 Board Meeting	5 7:30 Faceting Section	6	7	8 10-5 Shop Open
9	10 1:00 Day Light Section	11 7:30 Show Committee	12	13	14	15 10-5 Shop Open 10-12 Youth Section 1:30 Beading Section
16	17 7:30 Lapidary Section	18 7:30 Paleo Section	19	20	21	22 10-5 Shop Open
23 30	24 31	25 7:30 General Meeting	26	27	28	29 10-5-Shop Open 1:30-3:00 New Member Orientation 3:30 Sept. Board Mtg.

2009		September				2009
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 No Board Meeting Tonight	2 7:30 Mineral Section	3	4	5 10-5 Shop Open 10-12 Youth Section
6	7	8 7:30 Show Committee	9 7:30 Faceting Section	10	11	12 10-5 Shop Open
13	14 1:00 Day Light Section	15 7:30 Paleo Section	16 7:30 Mineral Section	17	18	19 10-5 Shop Open 10-12 Youth Section 1:30 Beading Section
20	21 7:30 Lapidary Section	22 7:30 General Meeting	23	24	25	26 10-5 Shop Open
27	28	29	30			

The BACKBENDER'S GAZETTE

*The Newsletter of the
Houston Gem & Mineral Society*

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