The BACKBENDER'S GAZETTE

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

Volume XLV - No. 5 May 2014

President's Message

by Ray Kizer

You know what I think, I think Texas is a beautiful place in the spring, that is at least before the Gulf heats up and the humidity gets unbearable. The early spring is a great time to get out and see Texas. On the recent Paleo field trip to Lake Brownwood the bluebonnets and Indian paintbrush were just beginning to break ground. By now they will be covering the roadsides and pastures like a rolling blue blanket. They make a great background for those Easter family pictures. My family seems to like photos of me taken in them better than the ones of me standing in front of outcrops…but what do they know.

I love to travel and getting out on the road less traveled in the spring is one of the reasons I love this hobby so much. It gives me a chance to see the countryside and of course stop every now and again to pick up beautiful rocks, minerals and fossils. Rocks which other folks just drive right on pass. If they only knew the history and beauty they were overlooking or had any clue what can be found inside those little round rocks.

Continued on page 4

Upcoming General Meeting Programs

by Paul Brandes

May 27, 2014--A Woman's Perspective on Mineral Collecting: When Gail Copus Spann discovered the world of minerals a number of years ago, she found herself in a hobby dominated by men and very few women collectors. She also discovered along the way that women have a very different collecting style from men—a style that she explores in this presentation. Along with her husband Jim, they are actively involved in the Perot Museum of Nature and Science in Dallas, TX, and are avid fine mineral and gem stone collectors, with a collection rivaling many museums. Their mission in the hobby is to encourage more young people to learn the importance of minerals and to start collecting on their own. This will surely be an evening for the ladies of HGMS (oh, and the men can come too!).

Continued on page 4

Contents

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

Editor: Phyllis B. George
22407 Park Point Drive
Katy, TX 77450-5852
Phone: (281) 395-3087
Copy is due for the June 2014 issue by Wednesday, May 7, 2014.

E-mail the Editor and Webmaster at
pgeorge4@comcast.net

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.

2014 HGMS Officers

President	Raymond Kizer	(713) 203-6014
First Vice-President	Paul Brandes	(281) 543-3681
Second Vice-President	Beverly Mace	(281) 347-3646
Secretary	Nancy English	(713) 973-9513
Treasurer	Rodney Linehan	(936) 273-1751
Past President	John Caldyne	(832) 282-4270
Archeology Section Board Member	Garth Clark	(832) 527-6916
Beading Section Board Member	Jillynn Hailes	(281) 558-7140
DayLight Section Board Member	Mary Ann Mitscherling	(713) 957-2001
Faceting Section Board Member	Gary Tober	(281) 398-0333
Lapidary Section Board Member	Phyllis George	(281) 395-3087
Mineral Section Board Member	Sigrid Stewart	(832) 314-6115
Paleo Section Board Member	Mike Dawkins	(281) 242-2137

HGMS Section Chairs

Archeology Section Chair	Garth Clark	(832) 527-6916
Beading Section Chair	Diane Sisson	(713) 899-1232
Day Light Section Chair	Karen Burns	(409) 737-1417
Faceting Section Chair	Patricia Hildbold	(281) 540-6616
Lapidary Section Chair	Edward Clay	(713) 529-5482
Mineral Section Chair	Dean Lagerwall	(979) 480-9373
Paleo Section Chair	Neal Immega	(713) 661-3494
Youth Section Chair	Beverly Mace	(281) 347-3646

HGMS Appointed Positions

Clubhouse Chair	Neal Immega	(713) 661-3494
Show Chair	Michele Marsel	(281) 777-0257
Education Chair	Carrie Hart	(713) 253-3804
HGMS Publicity Chair	Tamara Ritchie	(713) 581-9344
Backbender's Gazette Editor	Phyllis George	(281) 395-3087
HGMS Webmaster	Phyllis George	(281) 395-3087
Youth Section Assistant	Elizabeth Guynn	(281) 476-5325

All meetings are held at the Clubhouse which is located at 10805 Brooklet near the intersection of Highway 59 (Southwest Freeway) and Sam Houston Parkway (Beltway 8). See the calendar inside the back page for when the different Sections meet. The General Meeting is the fourth Tuesday of each month at 7:30. The HGMS Web site address is **http://www.hgms.org**.

President continued from page 1

So now it is spring in Texas and the club has started our field trip season, what better excuse do you need for a little road trip. Hopefully you were able to attend Lapidary's weekend trip to the Tessman ranch to search for palm and golden petrified wood. Neal loves to see the shop get busy after these kinds of trips. If you couldn't make the long drive, maybe you were able to see the Faberge' Exhibit at the Houston Museum of Natural Science and hear club member Nancy Fisher describe the wonderful jewels made for the rich and famous. Didn't make either of those, well you still have time to make the short trip to the clubhouse on April 22 and attend the general meeting. Tuesday is Earth Day and we will have a panel of experts to answer earth science questions on topics ranging from general geology to mineralogy, collecting, paleontology, archeology, faceting, gemstones, and other earth science topics. See you there.

Programs continued from page 1

June 24, 2014--Texas Topaz: B. Diane Eames is a fine jeweler, Graduate Gemologist (GIA,) and gem cutter. She specializes in the Texas state gem, topaz. Found in Mason County, Texas, Ms. Eames will discuss where and how to find the elusive topaz. She will also cover the traditional faceting of the gem. Her displays will demonstrate Mason County topaz in the rough and how to differentiate topaz from quartz—the other gem-quality mineral found in the Hill Country. In addition, the Texas Cutters Collection will be exhibited, a collection of the state gem cut by various gem cutters from Texas. Recently, Gems of the Hill Country (Ms. Eames' jewelry store) was relocated to Ingram, Texas from their original location in Mason. For the folks who believe there's nothing in Texas except agate and petrified wood, this presentation should change your perception of Texas minerals.

BONES!

from Roadrunner, 3/2014
Added to by Neal Immega

The body of an organization has four kinds of bones:

WISHBONES: the ones who spend their time wishing someone else would do all the work

JAWBONES: those who do all the talking and little else

KNUCKLEBONES: ones who knock everything anyone else does

BACKBONES: those who get under the load and do all the work

BONEHEADS: those who are unwilling (or afraid) to volunteer for anything

Let's hope we have a group made up of BACKBONES so we can a lot of work done for the show. And when someone needs a volunteer, don't be a BONEHEAD.

Llanite and the Blue Quartz of Texas

by Paul V. Heinrich
Member of the Houston Gem & Mineral Society

Introduction

Llanite, which is named after llano County, Texas, is rhyolite porphyry that is well known among rockhounds, lapidarists, and geologists for its phenocrysts of blue quartz and reddish microcline feldspar. The blue quartz and reddish microcline feldspar phenocrysts set within a brownish to black aphanitic groundmass create a rock that has a striking and beautiful appearance (Figure 1). As a result, it is a popular rock among rock collectors and lapidarists.

Figure 1. Slab of llanite showing blue quartz and reddish-brown feldspar phenocrysts. Photo courtsey of and with permission of Neal Immega.

Possibly, the earliest known published report about llanite occurs in Comstock (1889). It consists of an extremely brief note about an "interesting porphyritic orthoclase felsite" that is in Llano County, Texas and contains abundant "blue opal" in the form of grains that are "the size of morning glory seed." Inexplicably, the "blue opal" is reported as having been found on Long Mountain, which lies well east of the actual outcrops of llanite. Given that Dumble (1889) incorrectly states that Long Mountain consists of schists instead of carbonate, the location of its outcrop might be confused.

Later, Professor N. J. Badu, a well-known and respected Texas mineralogist, reported on llanite and created the name "opaline granite" ("opal granite") for it. Under this name, Prof. Badu exhibited cut and polished specimens of llanite at various times in Dallas, Texas, the 1904 St. Louis World's Fair, and elsewhere. Prof. Badu and the Opaline Granite Company of Austin, Texas also marketed llanite as a decorative stone under the name "opaline granite" (Lent 1925, Phillips 1905, 1910).

It was Dr. Joseph P. Iddings who proposed the name "llanite" (Phillips 1905). Dr. Iddings proposed this name in unpublished personal communications to Dr. W. B. Phillips, who later used this name in Phillips (1905, 1910). In either Iddings (1904) or any other formal publications, Dr. Iddings never used the term "llanite." In Iddings (1904), he referred to it as "quartz-feldspar-porphyry (graniphyre liparose alaskose)." Other names that have been used for llanite include "sodaclase-granite-porphyry" by Johannsen (1932). Paige (1911) contains the first detailed geologic map, which describes it as "granite porphyry (containing opaline quartz phenocrysts)," illustrating the distribution of llanite outcrops within the Central Mineral Region of Texas.

Physical Character

Llanite is a rhyolite porphyry that consists of pink to brick-red feldspar and opalescent blue quartz phenocrysts encased within a brown to black groundmass (see Figure 1). Various studies of its composition have shown that llanite has a uniform chemical composition throughout its extent. (Burmester 1966, Barker and Burmester 1970).

The quartz phenocrysts occur as subhedral-to-euhedral hexagonal bipyramids that are 3 to 6 mm in diameter and typically lack prism faces (Figure 2). These phenocrysts typically occur as clusters of parallel crystals that are surrounded and embayed by groundmass. The color of most of the quartz phenocrysts is a milky blue in the center and a clear, dark blue near the edges. A few are colorless or brownish in color. In certain positions, broken quartz phenocrysts exhibit a silvery blue-white reflection (schiller) that is typically brightest near the exterior (Burmester 1966, Barker and Burmester 1970). In thin section, most of these phenocrysts exhibit a wavy extinction. Some of them have biaxial interference figures with a very small 2V (Burmester 1966).

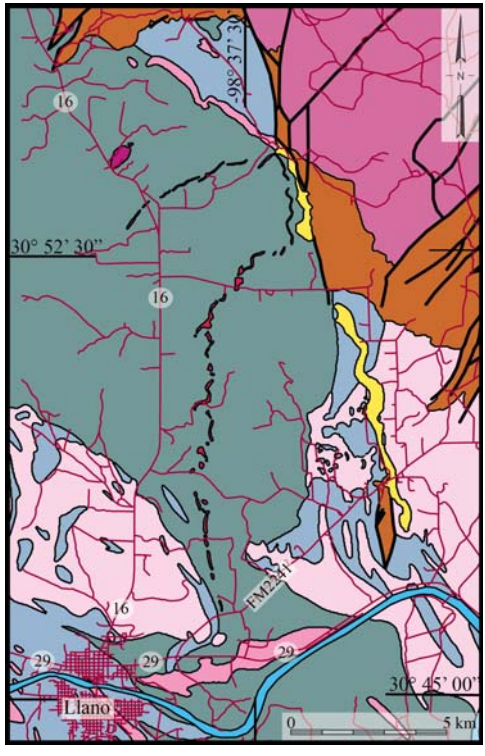


Figure 1. Geology of the Llano, Texas Area. Modified from Barnes (1981).

The alkali feldspar phenocrysts occur as 5 to 20 mm subhedral crystals. Locally the feldspars are tabular and exhibit flow orientation. Unlike the quartz phenocrysts, the feldspar phenocrysts are typically grown together. The contacts between them contain inclusions of biotite and granophyric intergrowths of quartz and feldspar. The alkali feldspar phenocrysts have inverted and unmixed from zoned, single-phase high-temperature feldspar to zoned microperthite with an intermediate microcline host. (Burmester 1966, Barker and Burmester 1970). Most of these phenocrysts have a 0.4 mm-thick red shell that possibly represents alteration of the original feldspar to kaolin and hydrous oxides of iron (Iddings 1904, Burmester 1966).

The groundmass of llanite is typically dark brown to black where fresh. It largely is composed mostly of quartz and feldspar and minor proportions of biotite, magnetite,

sphene, and apatite. Its dark color is likely the result of its fine grain size, as the black groundmass is generally finer-grained than the brown groundmass and the biotite and magnetite that are scattered throughout it. On weathered surfaces the phenocrysts typically protrude from the groundmass, as it weathers faster than they do. In its outcrops, llanite is well-jointed, and spheroidal weathering of the joint block is typical (Burmester 1966).

Occurrence

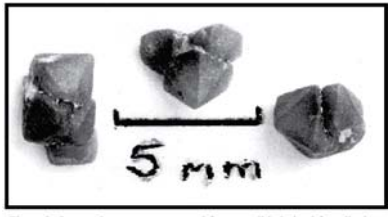


Figure 3. Quartz phenocrysts recovered from regolith derived from llanite. Reproduced with permission from Burmester (1966).

As first illustrated by Paige (1912), llanite crops out as a series of irregular and sometimes en-echelon, dike-like intrusions that form a hook-shaped pattern 4 to 12 miles northeast of the town of Llano (Figure 3). These dike-like bodies intrude pink quartz-feldspar gneiss of the Valley Spring Gneiss. The llanite outcrop can in places be traced easily because its greater resistance to erosion causes it to protrude as a ridge above the Valley Spring Gneiss into which it has intruded (Goldich 1941, Burmester 1966).

The llanite outcrops form a roughly question-mark-shaped pattern. The southernmost outcrop mapped by Burmester (1966) lies just north of Farm to Market Road 2241 about 4.2 km N 66.5º E of Llano, Texas. The northern end of the llanite outcrops lies about 13.8 km N 4.4º E of Llano, Texas. In general, the outcrop belt consists of four general segments: a (1) 9 km-long segment at N 1.8º W; (2) 3.6 km-long segment at N 46º E; (3) 2.9 km long segment at N 9º W; and (4) 5.2 km long segment at N 64.2º W, as shown in Paige (1912) and Barnes (1981).

Although there has been some speculation, i.e. Stenzel (1934), Goldich (1941), Lidiak and others (1961), as to either the structural control or lack of structural control for the llanite dike trends, nothing definitive has been demonstrated. What processes created the question mark-shaped pattern of llanite intrusions still remain unknown. Similarly, the nature of the larger parent intrusion that was the source of the llanite dikes remains unstudied and unknown.

The llanite outcrops are not the only rhyolitic dikes that crop out within the Llano Uplift. Paige (1912) first described the second type of rhyolitic dikes, which he described as being composed of “mica felsite.” Later, Thames (1957) identified the rock that composes them as being “melarhyolite.” This is the name that has been used by subsequent workers for this rock type. As mapped by Burnitt (1961), McGehee (1963), and others, the melarhyolite dikes, one of which is nearly 12 km long, occur within a narrow belt about 15 km long and 3 km wide in the southeastern corner of Llano County. These dikes strike at relatively small angles across the foliation of the Packsaddle Schist, which is younger than the Valley Spring Gneiss. The melarhyolite dikes consist of a dark compact aphanitic groundmass that contains scattered feldspar phe-

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

nocrysts as much as 5 mm long, smaller quartz phenocrysts, and very rare blue quartz grains (Thames 1957, DeLong and Long 1976).

Age

The llanite and melarhyolite dikes have long been regarded as the youngest Precambrian rocks in the Llano uplift. Because of their crosscutting relations with the metamorphic rocks that they intrude, the llanite and melarhyolite dikes have been presumed to significantly postdate the emplacement of all the massive granitic intrusions within the Llano Uplift (Paige, 1912, Stenzel, 1932). However, nowhere are these dikes in contact with the massive granites where their relative age can be determined with any certainty (Paige 1912, Burmester, 1966). Later, preliminary dating of the llanite dikes by Silver (1963) and Zartman (1964) suggested that the emplacement of the llanite dikes postdates the general age of granite emplacement in the Llano uplift by about 100 million years.

Dating of samples by Delong and Long (1976) from five melarhyolite whole rocks; two rhyolite porphyry whole rocks; groundmass and feldspar phenocrysts from rhyolite porphyry; and a nearby diabase dike yielded an isochron age of 1,106 ± 6 Ma. This research concluded that that the llanite and melarhyolite dikes were emplaced simultaneously about 1,100 million years ago (Ma). This research not only concluded that the two dike swarms are coeval, within the analytical uncertainty. Delong and Long (1976) also concluded, contrary to the findings of Silver (1963) and Zartman (1964), that these dikes are at least as old as the massive granites of the Llano Uplift.

For the age of the llanite, Helper et al. (1996) report a U-Pb zircon age of 1092 ± 3 Ma and a Rb-Sr whole rock isochron age that is within about 10 million years of this U-Pb zircon age and a previously reported U-Pb zircon age of 1098 ± 3 Ma for the melarhyolite dike. They found that the virtual geomagnetic pole position (VGP) of the llanite dike coincides with other North American VGPs of ca. 1100 Ma. Helper et al. (1996) regarded the llanite and melarhyolite dikes as being post-tectonic with respect to country rock gneisses and schists and have not experienced any younger deformation or metamorphism.

Other Occurrences of Blue Quartz

The blue quartz that most defines llanite has often and incorrectly been characterized as “unique.” Although rare, blue quartz like that found in llanite has been found in a number of felsic intrusions, metamorphosed volcanic rocks, felsic gneisses, and high purity quartzites. For example, in terms of plutonic rocks, blue quartz has been reported from the Bushveld complex, South Africa (Reed 2007); Old Rag Granite (garnetiferous leucogranite), Virginia (Gunda 2008); Roseland anorthosite, Virginia (Gunda 2008); Cape Ann Granite, Massachusetts (Gunda 2008); Oracle Granite, Arizona (Gunda 2008); quartz-bearing granitoid intrusions, northwest China (Lei et al. 2012); an unnamed zoned intrusion in the Tarryall Valley, Park County, Colorado (Weinzapfel 2011); granites of the southern Elbe Zone, Germany (Seifert et al. 2011); granites of the Faja Eruptiva in Oriental northeastern Argentina (Seifert et al. 2011); porphyry dikes, northern Sudan (Seifert et al. 2011); and the Wyangala granite, New South Wales, Australia (Seifert et al. 2011). Blue quartz has also been found in metamorphosed volcanic rocks,

including the Cushing Formation, Peaks Island, Maine (Bartovics et al. 2007); chlorite-rich volcanics and feldspathic crystal tuffs within the Northfield 7.5-Minute Quadrangle, Vermont (Westerman 1984); and rhyolitic volcanic rocks, Sturgeon Lake, northwest Ontario (Davis et al. 1985). In addition, blue quartz has been reported from gneisses in the Blue Ridge "Complex" of southwestern Virginia (Wise 1981) and as vein quartz in granodiorite gneisses in the central Wind River Range, Wyoming (Parker 1962). Blue quartz has been found in charnockites, which are thought to be metamorphosed felsic plutonic rocks, of South India (Jayaraman 1939). Finally, blue quartz has been found in high-purity quartzites, which are interpreted to be metamorphosed sandstones, of Norway (Mu˜ller et al. 2012).

Blue quartz seems to preferentially occur within igneous and metamorphic rocks that are between 1500 and 380 million years old. In addition, blue quartz seems to be typically of igneous origin and closely associated with A-type (anorogenic and/or anhydrous) granitoids that occur along rift zones and within stable continental blocks. With the exception of Norwegian quartzites, its occurrence in metamorphic rocks implies an igneous precursor (protolith). What the presence of blue quartz means about the special conditions of crystallization remains undetermined (Gunda 2008, Seifert et al. 2011).

Origin of Blue Quartz

Transmission electron microscopy and other studies of the blue quartz by Coblieg and Zolensky (1986) and Zolensky et al. (1988) found the presence of two different types of submicrometer-sized inclusions of ilmenite in llanite. The first type consists of ubiquitous rounded inclusions of ilmenite that average about 0.06 micrometer in diameter. The second type consists of ilmenite ribbons that measure -0.1 by 1 by 20 micrometer. The ilmenite ribbons are largely aligned parallel to the edges of the faces of the quartz crystals. The amount of ilmenite in the blue quartz was estimated by Zolensky et al. (1988) to be 0.02 percent by volume.

Coblieg and Zolensky (1986) and Zolensky et al. (1988) concluded that physical characteristics of blue quartz are caused by these ilmenite inclusions. Their specific size, which is less than 1/10 of the wavelength of incident light, results in wavelength-selective Rayleigh scattering. The blue color of the quartz in llanite is argued to be the result of Rayleigh scattering by the ubiquitous rounded inclusions. The ilmenite ribbons are argued to be too big to contribute to Rayleigh scattering and contribute to the color of blue quartz. However, it is argued that the ribbon ilmenite produces an intense white flash in certain orientations that gives the blue quartz in llanite its opalescence.

Other geologists, who have studied the blue quartz found in llanite and other rocks, have concluded that the origin of the blue color in blue quartz remains unresolved. Most researchers argue that the blue color is caused by Rayleigh scattering by high concentrations of submicrometer mineral inclusions. There is no consensus on the identity of the minerals that produce the color of blue quartz as various minerals, mica-group minerals, ilmenite, rutile, and other minerals are thought to produce blue quartz in other rocks that contain it. For example, Bartovic and Beane (2007) as the result of SEM-EDS analysis concluded that the submicrometer inclusions in the blue quartz of

the Cushing Formation, Peaks Island, Maine, consisted largely of biotite and muscovite and minor albite, labradorite, and titanite. Why blue quartz is significantly richer in these mineral inclusions relative to common igneous quartz is unresolved. The greater abundance of these inclusions in blue quartz argues for special growth conditions (Gunda 2008, Seifert et al. 2011).

Conclusions

Llanite is an unusual rock that looks beautiful when cut and polished, and is a popular rock for lapidary work and jewelry. Although the uniqueness of both it and the blue quartz that characterizes it is greatly overstated, it is still a fascinating rock type. The geological significance and context of both llanite and blue quartz remains unknown and is in need of additional research.

Unfortunately, most of the llanite outcrops occur within private property where the landowner's permission is required to visit and collect. The only public access to an outcrop of llanite is a roadcut on Texas Highway 16 at the crest of a ridge about 9.0 miles (14.4 km) north of the intersection of Texas 16 and 29 in Llano, Texas. Any loose blocks have been completely removed from this outcrop, and collecting requires heavy-duty hammering and protective goggles. Rare, loose bipyramidal quartz crystals can be collected from the loose surface soils overlying weathered llanite (Figure 2). However, identified specimens are only a small percentage of the quartz found in the surface soils.

Acknowledgments

I thank many people who have helped me in the course of researching this article. Dr. R. M. Reed (University of Texas at Austin) provided useful information about llanite. Dr. Russell M. Burmester (Western Washington University) was also very helpful in his comments and permission to use figures of his. Mr. Bob Skiles was very helpful in providing me with information about Professor N. J. Badu. Charles Hixson and other members of the TXARCH listserve provided useful information about the geography and history of Llano County, Texas. Neal Immega provided me with both a slab and pictures of llanite. Richard P. McCulloh (Louisiana Geological Survey) reviewed a draft of this article and provided many helpful suggestions. Finally, the Interlibrary Loan Department at Middleton Library, Louisiana State University, obtained copies of publications for me that proved essential for writing this article.

References Cited:

Barker, D. S., and R. F. Burmester, 1970, LM unpublished M.A. thesis, University of Texas, Austin, Texas. 73 pp.

Burnitt, S. C., 1961, Geology of the Red Mountain area, Llano, Gillespie, and Blanco Counties, Texas [M.A. thesis]: Austin, Univ. Texas at Austin, 206 p.

Coblieg, T., M. E. Zolensky, and P. J. Sylvester, 1986, Why is blue quartz blue? Abstracts with Programs - Geological Society of America. vol. 18, no. 6, pp. 567

Comstock, T. B., 1889, A preliminary report on the central mineral region of Texas. In Dumble, E. T., ed., pp. 239-378, First Annual Report of the Geological Survey of Texas. Texas. Department of Agriculture, Insurance, Statistics, and History. Austin, Texas.

Davis, D., T. E. Krogh, J. Hinzer, and E. Nakamura, 1985, Zircon dating of polycyclic volcanism at Sturgeon Lake and implications for base metal mineralization; Economic Geology, v. 80, pp. 1942-1952.

DeLong, S. E., and L. E. Long, 1976, Petrology and Rb-Sr age of Precambrian rhyolitic dikes, Llano County, Texas. Geological Society of America Bulletin. vol. 87, no. 2, p. 275-280.

Dumble, E. T., ed., pp. 239-378, First Annual Report of the Geological Survey of Texas. Texas. Department of Agriculture, Insurance, Statistics, and History. Austin, Texas.

Goldich, S. S., 1941, Evolution of the Central Texas Granites. The Journal of Geology. vol. 49, no. 7, pp. 697-720.

Gunda, T., and M. Wise, 2008, Geological Significance of Blue Quartz in United States of America. National Museum of Natural History. http://www.vanderbilt.edu/viee/profiles/Geological_Significance_Blue_Quartz_Gunda_2008.pdf last accessed January 20, 2014.

Helper, M. A. W. A. Gose, and R. C. Roback, 1996, Virtual geomagnetic pole positions from 1.1 Ga intrusive rocks of the Llano Uplift, central Texas. Abstracts with Programs - Geological Society of America. vol. 28, no. 1, pp. 18.

Iddings, J. P., 1904, Quartz-Feldspar-Porphyry (Graniphyro Liparose-Alaskose) from Llano, Texas. The Journal of Geology. vol. 12, no. 3, pp. 225-231.

Jayaraman, N. (1939) The cause of colour of the blue quartzes of the charnockites of South India and the Champion Gneiss and other related rocks of Mysore. Proceedings of the Indian Academy of Science, 9, 265285

Johannsen, A., 1932, A Descriptive Petrography of the Igneous Rocks. Volume 4, Part 1, The Feldspathoid Rocks and Part II, The Peridotites and Perknites. University of Chicago Press, Chicago, Illinois. 523 pp.

Lent, F. A., 1925, Trade Names and Descriptions of Marbles, Limestones, Sandstones, Granites and other Building Stones Quarried in the United States, Canada and Other Countries. New York. 41 pp.

Lei, R., C.Wu, G. Chi , G. Chen, L. Gu and Y. Jiang, 2012, Petrogenesis of the Palaeoproterozoic Xishankou pluton, northern Tarim block, northwest China: implications for assembly of the supercontinent Columbia. International Geology Review. vol. 54, no. 15, pp. 1829–1842.

Lidiak, E. G., Almy, C. C., Jr., and Rogers, J. J. W., 1961, Precambrian geology of part of the Little Llano River area, Llano and San Saba Counties, Texas: Texas J. Sci., v. 13, p. 255-289.

McGehee, R. V., 1963, Precambrian geology of the southeastern Llano uplift, Texas [Ph.D. dissert.]: Austin, Univ. Texas at Austin, 290 p.

Mu˜ller, A., J. Egil Wanvik and P. M. Ihlen, 2012, Chapter 4

Petrological and Chemical Characterisation of High-Purity Quartz Deposits with Examples from Norway. in J. Götze and R. Möckel, eds., pp. 71-118, Quartz: Deposits, Mineralogy and Analytics, Springer-Verlag, Berlin, Germany. DOI: 10.1007/978-3-642-22161-3_4

Paige, S., 1911, Mineral resources of the Llano-Burnet region, Texas, with an account of the

pre-Cambrian geology. Bulletin no. 450. United States Geological Survey, Reston, Virginia. 103 pp.

Paige, S., 1912, Llano-Burnet folio, Texas. Geologic atlas of the United States folio 183. United States Geological Survey, Reston, Virginia. 16 pp., 7 plates, scale 1:125,000.

Parker, R. B., 1962) Blue quartz from the Wind River Range, Wyoming. American Mineralogist vol. 47, pp. 1201–1202.

Phillips, W. B., 1905, Tests on Texas building stones. The Mining World. vol. XXII, pp. 654-655, June 24, 1905

Phillips, W. B., 1910, The Mineral Resources of Texas. University of Texas Bulletin no. 365. University of Texas, Austin, Texas. 362 pp.

Reed, R. M., 2007 Llanite in Africa? Reeds Granite Page. The University of Texas at Austin. http://uts.cc.utexas.edu/~rmr/llanite2.html last accessed January 20, 2014.

Seifert, W., D. Rhede, R. Thomas, H.-J. Förster, F. Lucassen, P. Dulski, and R. Wirth, 2011, Distinctive properties of rock-forming blue quartz: inferences from a multi-analytical study of submicron mineral inclusions. Mineralogical Magazine, vol. 75, no. 4, pp. 2519-2534.

Silver, L. T., 1963, U-Pb isotope ages in zircons from some igneous rocks from Llano uplift, central Texas: Geol. Soc. America Abs. for 1962, Spec. Paper 73, p. 243-244.

Stenzel, H. B., 1932, Pre-Cambrian of the Llano uplift, Texas [abs.]: Geol.

Soc. America Bull., v. 43, p. 143-144.

Stenzel, H. B., 1934, Pre-Cambrian structural conditions in the Llano region. In E.H. Sellards and C.L. Baker, eds., pp. 74-85, The Geology of Texas. Volume II: Structural and Economic Geology. University of Texas Bulletin no. 3401. University of Texas, Austin, Texas.

Thames, C. B., 1957, Geology of the Yearlinghead Mountain area, Llano Counry, Texas [M.A. thesis): Austin, Univ. Texas at Austin, 55 p.

Weinzapfel, A., 2011, “Llanite” Outside the Lone Star State. The Hounds Tale: Rockhound News of the Arlington Gem and Mineral Club (Texas). vol. 62, no. 10, pp. 7-11.

Westerman, D. S., 1984, The Nature of the Taconian Line in the Northfield 7.5-Minute Quadrangle, Vermont. The Green Mountain Geologist. vol. 11, no. 1, p. 11.

Wise, M. A., 1981, Blue quartz in Virginia. Virginia Minerals. vol. 27, no. 2, pp. 9-12.

Zartman, R. E., 1964, A geochronologic study of the Lone Grove pluton from the Llano uplift, Texas: Jour. Petrology, v. 5, p. 359-408.

Zolensky, M. E., P. J. Sylvester, and J. B. Paces, 1988, Origin and significance of blue coloration in quartz from Llano rhyolite (llanite), north-central Llano County, Texas American Mineralogist. vol. 73, pp. 313-323

Spiral Burrow found at Whiskey Bridge

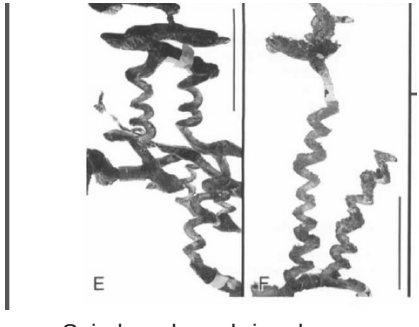
by Neal Immega, Paleontologist
Member of the Houston Gem & Mineral Society

It pays to be careful. Mike Dawkins (field trip leader for the HGMS Paleo Section) was collecting at the Brazos River site near Bryan, TX that is known as Whiskey Bridge. He found a spiral of siderite! Okay, that is not unusual at all, because the formation/member that outcrops there is called the Crocket/Stone City beds. Earlier settlers named their nearby town Stone City because this outcrop is the only place in the Brazos River valley where they could find stones to make a chimney. These stones are actually siderite (iron carbonate) cemented fossiliferous sandstone. The siderite forms when the sedimentation rate is low and sea water circulates through the sediment, depositing iron carbonate in the voids.

Mike Dawkins with Shrimp Burrow

I am sure that you are saying right now "Get to the POINT." Mike found that the siderite is in the shape of a spiral **15 inches long**. Though it looks like a rusted old car spring, it is actually a burrow that has been preserved by being filled with siderite.

Spiral burrows are rare. The only ones I know about are made by Miocene beavers found at the Agate Fossil Beds National Monument in Nebraska on land (called the Devils Corkscrew). I went looking on the Internet and found a paper written by an Austrian and Brazilian about modern shrimp burrows they found offshore from Brazil (they must have earned a prize for creative grant writing). They pumped slow-setting epoxy into the burrows and found spirals when they excavated the results.



Spiral modern shrimp burrow - part of Figure 5 from Dworschak and Rodrigues

We have seen parts of spiral burrows at Whiskey Bridge before—most recently by the father/son geologist team of Jim and Chris Flis, but this is by far the best example. I think this discovery was made because the Flis family gave a talk to the Paleo Section and showed us what was possible. Mike saw some lumpy siderite in the outcrop as he was leaving, and he stopped to excavate. It is very hard to find things for the first time. I have always been told "The best geologist is the one who has seen the most geology." Keep looking.

Reference

Dworschak, P.C. & Rodrigues, S. de **A.** 1997 04 15: A modern analogue for the trace fossil

Gyrolithes: burrows of the thalassinidean shrimp *Axianassa australis. Lethaia,* Vol. 30, pp. 41-

52. Oslo. ISSN 0024-1 164.

You can find this free article at
http://onlinelibrary.wiley.com/doi/10.1111/j.1502-3931.1997.tb00443.x/abstract

Archeology Section Meeting Minutes

April 3, 2014
by Terrell William "Terry" Proctor
Acting Archeology Section Secretary

The April 3, 2014 meeting of the HGMS Archeology Section was called to order at 7:30 p.m. by Chairman Dr. Garth Clark. This was a larger than usual turnout of 20 who came to hear Dr. Dirk Van Tuerenhout, PhD. Dr. Tuerenhout is the Curator of Anthropology at the Houston Museum of Natural Science.

Dr. Tuerenhout is an expert on human cultures—especially those of Latin America—in most areas of archeology and anthropology. He has curated the world premiere exhibition "Lucy's Legacy: The Hidden Treasures of Ethiopia" which features the fossilized remains of the hominid primate known as Lucy as well as over 5 million years of Ethiopian history.

Dr. Tuerenhout takes care of the John P. McGovern Hall of the Americas, which showcases the HMNS permanent collection of artifacts from the indigenous cultures of North and South America. He has been responsible for numerous traveling exhibits over the years.

In his talk to the Archeology Section of HGMS at this meeting, Dr. Tuerenhout pointed out that collapse was not always a sudden cataclysmic collapse of a civilization (as in a volcano, tsunami, or military conquest) but a collapse could take place over time,

such as due to prolonged drought or other climate changes, economic-social changes etc. He spoke about the Yucatan area and gave an overview with three periods of collapse. These were the Pre-classic period-El Mirador; Classic period -patterns; and the Post-classic period of Mayapan, Tayasal.

He presented seven patterns of Mayan Collapse as Terminal Classic. Robert Moore and wife, Nancy Engelhardt-Moore provided some Show and Tell. They brought two examples of Central American artifacts, being (photo #1) a Central American bowl [600-900 A.D.] and (photo #2) a Central American Terracotta Chieftain and Warrior figure which is a whistle [600-700 A.D.]

The next field trip will be a return to McFaddin Beach on Saturday, May 3, 2014. Information will be sent to those on the Archeology Section e-mail blast (if you want to get information on Archeology Section events, contact Vice-Chairman Terry Proctor, 713 453-8338 (his law office phone) or e-mail to auraman@swbell.net.

Terry Proctor moved to adjourn, and Neal Immega seconded the motion. It passed unanimously.

Mineral Section Upcoming Programs

by Paul Brandes

May 7, 2014 Houston Fine Mineral Show Wrap-up: Bring in your recent acquisitions from the Houston Fine Mineral Show (April 25–27). Let other Section members gaze at your shiny new specimens while telling us how you came about it and from what dealer. Also, please share your experience of the show, good or bad, with the rest of the Section; what did they do correctly or poorly in your mind? What did they do that could benefit our show in November, etc… Refreshments will be provided.

May 21, 2014 A Preview of the Texas Mineral Collectors Supplement in The Mineralogical Record: This evening's presentation will focus on the photographs and Section Members who will be contributing to the second Texas Mineral Collectors Supplement that will appear in a future issue of The Mineralogical Record—the premier magazine for the mineral collector hobby. Come see the many fine photographs that will appear in the magazine and, in some cases, the actual mineral specimen. Refreshments will be provided.

June 4, 2014 Swap Night: Back by popular demand, we will have a Swap Night where excess material from our collections can be bought/sold/swapped. This will be an informal event and will be held inside. All Sections are invited to participate and

swap. Setup begins at 7:00 p.m., and the formal business meeting will be kept to a minimum to allow ample time for specimen exchange and socializing. This is also our last regularly scheduled meeting before the summer workshops. Refreshments will be provided.

General Meeting Minutes

03-25-2014

by Nancy English, HGMS Secretary

The meeting was called to order at 7:30 p.m.

President Ray Kizer thanked all who donated items for the new monthly silent auction that benefits the club. He reminded everyone that proceeds from the silent auction will be split 50–50 between the HGMS Building Fund and the HGMS General Fund that is used to operate the club. This new feature of the General Meeting was prompted by Board members seeking ways to enlarge the building fund following a review of the preliminary 2014 HGMS budget.

Dues: If you have not paid your 2014 dues yet, please see Beverly Mace and take care of that right away.

Drawing: Clyde McMeans donated an agate belt buckle and a 10X loupe as our door prize tonight. Mary Ann Mitscherling won the drawing.

Attendance: The meeting was attended by 30 regular members, three new members: Julie Germain, Walter Jarnell, and Joe Niernberger, plus three visitors: Tina Wood and Anthony and Brice Ramananarive.

Minutes: Karen Burns moved to approve the minutes of the March General Meeting as published in the BBG. Joan Ochoa seconded, and the membership passed the motion.

Section Reports

Archeology Section: The next Archeology Section meeting is Thursday, April 3, 2014 at 7:30 p.m. Dr. Dirk Van Tuerenhout, Curator of Anthropology at the Houston Museum of Natural Science, will give a presentation on the collapse of the Mayan civilization. Almost 18 months after the world was supposed to come to an end, we are all still here and so are the modern Maya—descendants of a highly advanced indigenous civilization in southern Mexico and neighboring countries. Dirk's presentation will focus on a particular part of their history, **the so-called collapse of the Maya**. This phenomenon, combined with the incorrect interpretation of their calendars, lies at the basis of the 2012 Apocalypse hysteria. He will address questions such as, who were the ancient Maya? Where did they live? What is this so-called collapse? What do we know about it, and what do we currently think happened? After the talk, Dirk will gladly entertain questions.

Beading Section: The Section will make a field trip to the Houston Museum of Natural Science on April 12, 2014 to tour the Faberge' Exhibit. The next regular Beading Section meeting will be April 19, 2014 at 1:30 p.m.

Day Light Section: The next meeting is scheduled for April 14, 2014 at 1:00 p.m. The group will be making a handmade locking clasp. Anyone who has round-nose pliers should bring them. Copper wire will be provided, and Neal Immega will show us how to solder the clasp. We will be using large wire, but these clasps also can be made with finer wire. The Toggle Clasp can be used as a focal point for a necklace. The last meeting had a large turnout of 19 people.

Education Committee: Carrie Hart has volunteered to head the Education Committee, and she has put out a call to all HGMS members who would LOVE to share their skills and knowledge with others in the club by teaching a beginning to advanced class. If you have an interest in teaching a class, please e-mail her at classes@hgms.org or at carriehart2000@yahoo.com .

Faceting Section: The next meeting is on April 9, 2014 at 7:00 p.m. The program will be announced in an e-mail blast.

Lapidary Section: 21 people attended the March 17 Section meeting on "Lapidary 102," How to turn a slab into a cabochon. On Saturday, April 12, Ed Clay will lead a lapidary field trip to the Tessman Ranch to collect golden petrified wood. There is a $5.00/day fee for collecting on the ranch. The group will meet at __8:30___ a.m. at the Palace Café, 300 W Front St., Falls City, TX 78113 before heading to the ranch.

The next meeting is scheduled for Monday, April 21, 2014 at 7:30 p.m. Steve Wilkerson will demonstrate spool polishing. Spool polishing is a preferred method for polishing very soft materials like opal and turquoise. It also does an excellent job for the final polish of hard stones such as agates, star sapphires, and jade.

Mineral Section: On April 2, 2014 at 7:30 p.m., David Gardiner will present a talk on the Cristalli Mineral Exhibit. The Cristalli collection is a world-class collection of beautiful mineral specimens from all parts of the planet. David toured the collection when it was on temporary exhibition in the Natural Science Museum of the University of Florence, Italy, which is also the oldest science museum in Europe. The specimens in this collection rival any others you will find in fine museums or private collections anywhere else in the world. Included in a separate room is a display of fabulous mineral specimens from Italy.

Mineral Section Auction April 16, 2014: The Mineral Section will be hosting its annual auction to help raise money for the Section. Once again, we invite all HGMS members to attend and to bring your extra specimens to the auction.

Outreach Committee: No Report

On March 13–16, 2014 The Paleontology Section made its first Field Trip to Brownwood, TX. Field Trip Chairman (and Vice-Chairman) of the Paleontology Section Mike Dawkins lead a total of 19 members to various sites throughout the area which contained Cretaceous, Permian, and Pennsylvanian plant and marine fossils. Many impressive large and small specimens were found, including a truly fine Pennsylvanian *Petalodus ohioensis* shark tooth uncovered by trip leader Mike.

Paleo Section: The next meeting is scheduled for April 15, 2014 at 7:30 p.m. The program will be announced in an e-mail blast.

Youth Section: The Youth Section will meet Saturday, April 5, and again on April 26.

BBG Editor and Webmaster: Phyllis George mentioned that the due date is April 9 for all submissions for the May edition of the BBG. She also said she had been busy updating several sections of the Web site, and asked that members help in finding outdated or broken links.

Shop Report: Neal Immega will be teaching a Simple Soldering class at 1:00 on Wednesday, March 26 and Saturday, March 29, 2014. Both classes are already full. All supplies and equipment will be supplied. Bring your own cabochon to mount.

April General Meeting: The program on April 22, 2014, 7:30, will be a Q & A panel of experts to answer all questions about Archeology, Faceting, Lapidary, Paleontology, and Minerals. So far, the panelists are Natalie Brandes, Neal Immega, Margo Bedman, and Jonathon Woolley.

Old Business

In the interest of time, President Kizer asked the members to follow the progress of Old Business items in the March 4 Board meeting minutes as published in the April edition of the BBG.

New Business:

HGMS Publicity Chair: The president and the HGMS Board would like to announce that Tamara Ritchie has agreed to become the new HGMS Publicity Chair. Tamara is one of our new members this year. She brings to the position a strong background in graphic design which should be of great benefit to the organization. She has recently posted information about events on Facebook.

Donated Magazines: HGMS has received a donation of five tubs of Lapidary Journal, Rock & Gem, and other fine magazines from the estate of Anna Miller. Anna is a gemologist and former member of HGMS. Clyde McMeans has provided us with an inventory of the contents of the tubs, and we would like to sell the surplus copies along with their labeled organizers. The magazine dates span years 1963 through 1999.

Speaker Gift Membership: After our last monthly meeting, club member John Cooper suggested that speakers from out-of-town (who are not currently members of HGMS) be awarded a one-year membership to honor them for making the effort to come in and present to our club. After a brief discussion, the Board agreed this would be a nice gesture and passed a motion "that all speakers who present General Meeting programs during 2014 (and are not already HGMS members) be awarded a one-year gift membership." The motion passed unanimously.

Sunday Shop Supervisor: Sharon Hilton announced that she would be leaving the shop supervisor position after April 20 to return to North Carolina, her home state, where she was excited to start a new phase in her life. She said that she had enjoyed being our Sunday shop super and that the many people she had worked with in the shop had helped her through some difficult times. She suggested that Sunday shop could continue as before if a member or a group of members volunteered for the job. The membership all applauded her efforts, and wished her our best.

The next Board of Directors meeting is Tuesday, April 1st. The next General Meeting

is April 22.

Silent Auction: At 8:10 p.m. the silent auction was officially closed. Twelve different bidders participated in the auction. The auction brought in $190.00. Michele Marsel purchased all of the donated Lapidary Journals, netting the club $85.00, and Terry Proctor is the new owner of the six-foot display case.

Program: A Preview of the Bulgari Exhibit of 130 years of Masterpieces of Jewelry Design

Paul Brandes introduced our speaker for tonight: Dr. Inda Immega

Dr. Inda Immega spoke on the Bulgari Exhibit that is coming to the Houston Museum of Natural Science. Since its founding in Rome in 1884, the name Bulgari has become synonymous with innovation and luxury in jewelry design. The jeweler is famous for mixing semiprecious stones with diamonds, mounting ancient coins in gold jewelry, and creating easy-to-wear pieces made with unusual color combinations. Inda presented an evening of pretty photos, fancy jewelry, and lively discussion.

Refreshments: Provided by Nancy English

The meeting was adjourned following the presentation.

Adjourn: Phyllis George moved to adjourn the business meeting, and Joan Ochoa seconded.

The motion passed unanimously, and the meeting was adjourned at 8:50 p.m.

Board of Director's Meeting

April 1, 2014
by Nancy English

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

Call to Order: The meeting was called to order at 7:30 p.m. with a quorum of eight members present. Guests attending included Publicity Chair Tamara Ritchie and Show Chair Michele Marsel. President Ray Kizer presided over the meeting.

Approval of Previous Month Board Minutes: Gary Tober moved and Garth Clark seconded that the minutes of the March 2014 Board Meeting be accepted as published in the April 2014 BBG. The motion passed unanimously.

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

Office, Committee, and Section Reports

Archeology Section: Next meeting is Thursday April 3, 2014 at 7:30 p.m. – **Dr. Dirk Van Tuerenhout,** Curator of Anthropology at the Houston Museum of Natural Science, will give a presentation on "The Maya Collapse." Almost 18 months after the world was supposed to come to an end, we are all still here. So are the modern Maya, descendants of a highly advanced indigenous civilization in southern Mexico and neighboring countries. This presentation will cover a particular part of their history, the so-called collapse of the Maya. This phenomenon, combined with the incorrect interpretation of their calendars, lies at the basis of the 2012 Apocalypse hysteria. Dr. Van Tuerenhout will address questions such as who were the ancient Maya? Where did they live? What is this so-called collapse? What do we know about it, and what do we currently think happened? Recent technology employed by Google and satellite imagery has detected remnants of ancient Central American archeology where none had been seen before.

The Archeology Section is planning a Field Trip to McFadden beach either April 19 or 26. The date will be decided at the April 3 meeting.

Beading Section: On Saturday April 12, 2014 (This is the second, not the third Saturday!) we meet between 1:00 and 1:30 p.m. at the **Houston Museum of Natural Science to tour the Faberge' Exhibit**. Nancy Fisher will be our informative guide. There will be **no meeting on Saturday, April 19**. The May meeting will be on Saturday, May 17 at 1:30 p.m. Kay Maddox will teach beading crochet. It will cost $10.00 per person.

Day Light Section: Next meeting is Monday, April 14 at 1:00 p.m. – Last month's meeting had a large turnout of 19 people. This time the group will be making a handmade locking clasp. Anyone who has round-nose pliers should bring them. Copper wire will be provided, and Neal Immega will show us how to solder the clasp. We will be using large wire, but these clasps also can be made with finer wire. The Toggle Clasp can be used as a focal point for a necklace. Next month's meeting is on Monday, May 12, 2014, at 1:00.

Education: Carrie Hart has put out a call to all HGMS members who would LOVE to share their skills and knowledge with others in the club by teaching a beginning to advanced class. If you have an interest in teaching a class, please e-mail her at classes@hgms.org or at carriehart2000@yahoo.com . Carrie reported lots of interest in wire wrapping classes. Charlie Fredregill recommended picking three Sundays in a row and setting up the class. Carrie will get in touch with James Burrell to set up another Fabrication class series. It was suggested that Margaret Hardman-Muye might teach a cabochon making class again.

Neal Immega was kind enough to hold two simple soldering classes in late March. He taught his students how to make a simple wire bezel with slots for soldering on the prongs. Rolled Copper electrical house wire and nickel silver wire were used to construct light-weight cabochon mounts as an alternative for those who do not yet do wire wrap. His Wednesday class had five students and several onlookers, and the Saturday

class had three students.

We have received 2 requests for a Cabochon class, 2 requests for a Faceting class, 2 requests for a Jewelry Fabrication class, and 1 request for a Wire Wrapping class.

Faceting Section: The next meeting is on April 9, 2014 at **6:30 p.m. (Note the time change!)** The program will be an Introduction to the Refractometer—what it is used for, and how to use it. The Faceting Section's two new Co-chairs—Pat Cockrell and Randy Carlson—will have their program plans up on the Web site soon.

Lapidary Section: There were 21 people at the March Lapidary meeting on how to orient a rock for cutting. On Saturday, April 12, Ed Clay will lead a Lapidary Section field trip to the Tessman Ranch—a great location to collect golden petrified wood. There is a $5.00/day fee for collecting on the ranch. The group will meet at 8:30 a.m. at the Palace Café, 300 W Front St., Falls City, TX 78113 before heading to the ranch.

The next regular meeting is Monday, April 21 at 7:30 p.m. – Stephen Wilkerson will demonstrate how to use a wooden spool polisher. Spool polishing is a preferred method for very soft materials like opal and turquoise. It also does an excellent job for the final polish of hard stones such as agates, star sapphires, and jade.

Mineral Section: Next meeting is Wednesday, April 2 at 7:30 p.m. – **The Cristalli Mineral Exhibit**: David Gardiner will be the speaker for the evening's presentation. The Cristalli mineral collection is a world class collection of beautiful mineral specimens from all parts of the planet.

The April 16 meeting will be an auction to benefit the Mineral section. Come at 6:00 to donate and set up the auction. Everyone is invited to donate items for auction and to bid. The summer workshops will consist of cataloging the Art Smith collection and preparing the mineral display boxes for the school program.

The club needs a volunteer to coordinate the HGMS information booth at The Annual Fine Gem & Mineral Show, April 25, 26, and 27 at the Embassy Suites Hotel, 2911 Sage Road, Houston, TX.

Paleo Section: Next meeting is Tuesday, April 15 at 7:30 p.m. – the program will be **Advanced Petrified Wood Identification:** We had a great turnout for basic petrified wood ID at the last meeting, so we are doing it again and bringing in the EXPERT—Scott Singleton. You will see the same stuff as last week AND wood that is not so easy to ID. As usual bring your own stuff, and Scott and Neal Immega will try to ID it. And Neal will have more handouts of petrified wood structures for you to take home. The meeting follows.

Publicity Committee: Tamara Ritchie, the new Publicity Chair, collected information from community newspapers on how to submit calendar information, which is usually free. Community-based papers were suggested to Tamara at the meeting. She will create a spreadsheet. She is looking at Art & Crafts fairs at middle schools and high schools and festivals to ask if HGMS may demonstrate Lapidary skills and hand out flyers. Tamara will be taking new pictures of HGMS meetings and classes to up-

date our Web site. She has been posting updates to the HGMS internal Facebook page. Michele Marsel will give Tamara the name of someone with experience in using Facebook to successfully promote a non-profit group on a public Facebook Page.

Show Committee: Michele Marsel reported the next meeting will be April 8 at 7:30 p.m. Chairpersons for the Education and Hospitality committees need to be confirmed.

Youth Section: The next meetings are Saturday, April 5, 2014 and April 19, 2014 from 10:00 a.m. to 12 noon.

BBG Editor and Webmaster: Phyllis George said the deadline for contributions to the BBG is April 9. The Web site continues to be updated with current information as she receives it. She will update the **HGMS Officers: 1948–Present** page this month or next month.

General Meeting Presentation: Next meeting is April 22, 2014 at 7:30 p.m. – **Earth Science Panel Discussion.** For this evening's program, there won't be a normal presentation—rather, this evening will feature a panel of selected HGMS members to answer questions concerning many topics ranging from general geology to mineralogy, collecting, paleontology, archeology, faceting, gemstones, and many other earth science topics. If you've ever wanted to ask an earth science question and have it answered by someone who is an expert in their chosen field, this is your night! Please plan to attend.

May 27 General Meeting Program Gail Spann will present "Collecting from the Woman's Perspective."

Old Business

a. Donation: HGMS has received a donation of 5 tubs of Lapidary Journal magazines from the estate of Anna Miller. The magazines are nicely organized in regular magazine boxes with labels. Her son Max came by on Saturday 3/1/2014 to make the delivery. Anna was/is a gemologist and former member of HGMS. She had been associated with The University of South Florida and was accredited as a "Master Appraiser" by the (GIA) or something similar. Charlie Fredregill and others took Max on a tour of the facility.

b. Dunn Southwest Bylaw Changes: Director's Report – Michelle Marsel reported that the Dunn Southwest Board approved their bylaw changes, pending membership approval. The new bylaws remove outdated restrictions and ancient covenants. The HGMS President will sign the approval document after a final review is completed. Review is in progress.

c. Proposed 2014 Budget: Rodney Linehan – Budget approval by the Board will be delayed until our accountant Rodney can be present at the meeting. We will make one last review of our functional 2014 budget prior to its approval by the Board.

d. Security System: Garth Clark has reviewed three companies for system quality and affordability. The systems are due to be updated soon. He suggested that we wait for the upgrades to be released to get more for less.

e. Show Trailer Repairs: Clyde McMeans, Neal Immega, possibly Tony Lucci & others – Hinge, lock works, light works and structural repairs have been completed to all of the show cases. All but ten of the cases, which are currently in the attic storage, have been returned to their carts. Those cases will be returned after structural repairs are completed on the trailers. Tony Lucci evaluated the carts and trailers and will provide pricing for the parts and labor to do the work.

f. Veteran's Outreach: Gary Tober was able to reach the Occupational Therapy section at the Veterans Administration hospital. He spoke with a woman named Liz who indicated that she would e-mail all the sections of the occupational therapies group, indicating that patients could request the services that HGMS has to offer. Regarding transportation, Liz said that that was absolutely no problem. The hospital will provide the vets transportation back and forth. Gary says that he believes that the key to HGMS having a successful program is finding somebody familiar with the bureaucracy of the hospital, the VA, and who has the motivation to make it successful. Suggestions welcome.

New Business

a. Web posting of HGMS Bylaw changes for Final membership approval: Per existing bylaws Article X, Section 2, the amended bylaws are to be posted at least 30 days prior to the meeting where a vote will be held. The Board agreed that electronic notification to all members of the document for review and date of vote was sufficient, as the cost to mail this is over $500. The Board discussed where to post them on the Web site, and President Ray Kizer decided that a final vote will be held by the membership at the May 27, 2014 General Meeting. We will ask Jim Kendall to send an e-mail blast to the membership about the vote.

b. Results of the General Meeting Silent Auction: The sale of the 11 items donated for the silent auction brought in $190.00. Twelve members made bids. All of the **donated Lapidary Journals** were also sold during the meeting. They went as a lot to Michele Marsel for $85.00. A total of $275.00 will be divided 50% each between the General Fund and Building Fund.

c. Participation in Inter-Gem Shows: We need to organize who will be responsible for the setup of the HGMS info booth at the next Inter-Gem & Jewelry Show. And who will organize the people to help staff the booth. It is probably too late for this show, but we definitely need a coordinator for the Fine Gem & Mineral Show April 25 through 27.

d. Sunday Shop Supervisor: Sharon Halton, our Sunday Shop Steward will be moving to North Carolina in the early part of May. She notes that her last "shift" of Sunday Shop Steward will be April 20. She has built up a loyal following of 5 to 10 members on Sundays, and she is sure they would like Sunday hours to continue. Please consider if you would be able to follow Sharon's tradition and act as Sunday Shop Supervisor on a continuing basis. Please let Sharon and Jim Kendal know if you are interested.

e. CERA Rockhounds Saturday April 12, Field Trip to McGregor, TX: This is a non-HGMS field trip. **Purpose:** To collect fossilized turritella and attend the Waco

Gem & Mineral Show. This trip is led by Billy Proffitt, and they have recovered some wonderful pieces here in the past. This trip is open to anyone interested in joining – you do not have to be a CERA club member. If you are interested or have questions, send an e-mail message to steve.l.shearin@lmco.com

Adjourn: Paul Brandes moved to adjourn the meeting, and Beverly Mace seconded. The motion passed unanimously, and the meeting was adjourned at 9:18 p.m.

Attention All Future SCFMS Rockhounds, Club Presidents, and Show Chairpersons!

by Paul Good
Editor of the SCFMS Newsletter
from SCFMS Newsletter 3-4/2014

I would like to take a moment to encourage our **Future Rockhound Juniors** to enter displays in the **SCFMS Federation Show** this year. The show will be held on August 9 and 10, 2014, in Baton Rouge, LA.

In 2015 the American Federation Show will be held in Austin, TX. It would be wonderful to see lots of their displays coming from our youth. At this show, the Lillian Turner Award could be given to a junior student whose exhibit is judged best at the national show.

In addition to the Lillian Turner Award for the best display, kids entering any sort of display can earn the AFMS Future Rockhounds of America merit badge for Showmanship. But put awards and merit badges aside. Begin by planning, preparing, and setting up a display and attending a show. Seeing all the other displays and meeting with those who prepared them is a great way to expand a child's horizons. The junior could meet new and interesting people who are actively engaged with our hobby **while—as always—having fun**.

Now to the Club Presidents and Show Chairpersons.

This would be a great year for your club to encourage your Juniors to bring a display to your Club Show this year and again next year. The Lillian Turner Award is only available at the American Federation Shows. Next year that show will be in our Federation. It sure would be nice to see several exhibits from our Junior Members entered into that show. This would certainly be an opportunity for a little bit of good experience. Who Knows! Your Junior might be the one who would become interested enough to be a Science Teacher in the future.

I'm sure the parents of that Junior would really be proud of their child. Sometimes it doesn't take much to get a young person interested. There are times when Mom and Dad exhibit at a show that Junior will take note and say, that's what I want to do when I grow up. Well, they can do it now and not wait until they grow up. So! Let's encourage our young people as much as we can to make our hobby—their hobby.

Thanks for listening. I hope to see some exhibits at the shows and to have an SCFMS Junior Member win that $100 Bond. That would make my day. (Note: Part of the above information was taken from the AFMS Newsletter 6–7/2006)

Safely Planting the Seeds for Our Children

by Owen Martin, SCFMS Safety
from SCFMS Newsletter 3-4/2014

Anyone reading this article knows that at some point—usually in our childhood—the seeds of interest in "rocks" were planted. Where did it happen? At a museum or jewelry store? During school or with Scouts? Finding rocks while walking with grandpa on his farm? Reading National Geographic? Watching a dinosaur movie? Finding that first shark's tooth on the beach?

I became interested on the Jacksonville Beaches in 1974. The shark teeth I found were little ones. No Megalodon teeth—that came later!

So lots of fond memories and hopefully a lot of joy realized along the way. But as we get older, many of us think about how to pass on the legacy of our interest—usually it's to our kids or grandkids, and possibly to students or Scouts.

This time is also an opportunity to help our prodigies to grow their interest in the right ways and in safe ways. For starters, always take the opportunity to get children to help in the planning stage while you are "planting the seeds."

As a "paleo" guy, I have to plan for travel, plan for what I'm carrying, how I will access a site, and how to return safely. Having taken Scouts on several "rock hunts," we first plan where we are going and what we will need to take. As the hunt approaches, we look at weather and conditions, hot or cold, dry or wet, and other variables like, "is it during DEER HUNTING season?" Do we need permission to access private properties? Do we need permits for hunting? Is special equipment needed for accessing sites? Ropes, ladders, boats, etc., and how do we safely use the equipment?

Once we get there, do we need PPE (personal protective equipment) like safety glasses, gloves, long pants and sleeves, bug spray, etc.?

Okay, what I'm getting at is ensuring that the kids help make the "plan."

Once you have figured out where you are going, you can do the following:

1. Discuss what you are going there to do.

2. Identify any risks (falling down slopes, slipping on wet rocks, snakes, etc.)

3. Discuss in detail how to eliminate or mitigate the risks.

4. Discuss how to respond if something goes wrong.

5. Finally, determine when you plan on returning, and BE SURE to let your friends or families know, too!

Teaching our children the right and safe ways to enjoy their interests will allow them the best opportunity to do so for a lifetime. Good luck, and thank you for your help!

Show Time 2014

May 24-25	Fort Worth, TX	Fort Worth Gem & Mineral Club Will Rogers Memorial Center Amon G. Carter Exhibit Bldg 3401 W. Lancaster fwgmc@embarqmail.com; www.fortworthgemandmineralclub.org
June 7-8	Grapevine, TX	Arlington Gem & Mineral Club Grapevine Convention Center 1209 S. Main St. Krisk@kirstnerphotogrhy.com
June 7-8	Stafford, TX	The Bead Market The Stafford Centre; 10505 Cash Rd. rebekah@thebeadmarket.net www.thebeadmarket.net
August 16-17	Bossier City, LA	ArkLaTx Gem & Mineral Society Bossier Civic Center, 620 Benton Rd. larockclub@gmail.com; www.larockclub.com
August 23-24	Jasper, TX	Pine Country Gem & Mineral Society The Event Center, 6258 State Hwy. 190W 5 miles west of Jasper; Jonetta Nash jonetta.nash@yahoo.com
October 4-5	Stafford, TX	The Bead Market Stafford Centre, 10505 Cash Rd. rebekah@thebeadmarket.net www.thebeadmarket.net
October 11-12	Temple, TX	Tri-City Gem & Mineral Society Mayborn Civic and Convention Center 3303 N. 3rd St.; Chip Burnette burnette@aceweb.com; tricitygemmineral.org
November 7-9	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; show@hgms.org
November 22-23	Mesquite, TX	Dallas Gem & Mineral Society Rodeo Center Exhibit Hall, 1800 Rodeo Dr. mark_a_hall@yahoo.com www.DallasGemAndMineral.org

2014			May			2014
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
				1 7:30 Archeology Section	2	3 10–5 Shop Open 10–12 Youth Section
4 10–4 Shop Open	5	6 7:30 Board Meeting	7 7:30 Mineral Section 10-3 Shop open	8	9	10 10–5 Shop Open
11 10–4 Shop Open Mother's Day	12 1:00 Day Light Section	13 7:30 Show Committee	14 7:00 Faceting Section 10-3 Shop Open	15	16	17 10–5 Shop Open 10-12 Youth Section 1:30 Beading Section
18 10–4 Shop Open	19 7:30 Lapidary Section	20 7:30 Paleo Section	21 7:30 Mineral Section 10-3 Shop open	22	23	24 10–5 Shop Open
25 10–4 Shop Open	26 Memorial Day	27 7:30 General Meeting	28 10-3 Shop open	29	30	31 10–5 Shop Open

2014			June			2014
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
1 10–4 Shop Open	2	3 7:30 Board Meeting	4 7:30 Mineral Section 10-3 Shop open	5 7:30 Archeology Section	6	7 10–5 Shop Open 10–12 Youth Section
8 10–4 Shop Open	9 1:00 Day Light Section	10 7:30 Show Committee	11 6:30 Faceting Section 10-3 Shop Open	12	13	14 10–5 Shop Open
15 10–4 Shop Open	16 7:30 Lapidary Section	17 7:30 Paleo Section	18 7:30 Mineral Section 10-3 Shop open	19	20	21 10–5 Shop Open 10-12 Youth Section 1:30 Beading Section
22 10–4 Shop Open	23	24 7:30 General Meeting	25 10-3 Shop open	26	27	28 10–5 Shop Open
29 10–4 Shop Open	30					

The BACKBENDER'S GAZETTE

The Newsletter of the Houston Gem & Mineral Society

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

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
BELLAIRE, TX 77401
PERMIT NO. 303

SCFMS

1998 - 1st (Large)
2000 - 1st (Large)
2003 - 1st (Large)
2005 - 1st (Large)
2006 – 2012 - 1st (Large)
2013 - 1st (Large)

AFMS

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

DATED MATERIAL - PLEASE DO NOT DELAY !