



The

BACKBENDER'S GAZETTE



The Newsletter of the Houston Gem & Mineral Society

Volume L—No. 7

July 2019



President's Message *by Sigrid Stewart*

Come look around the clubhouse—you will see some changes! Thanks to volunteers Jack Opatrany and Tatyana Kuhne who have spearheaded a painting project, the meeting room looks better than it has in years. The work is not completely done yet, of course, but it's looking good! The wall color is a very light blue-green and the trim remains white, but the room looks so much better! The posters and art will be re-hung when we are finished.



Between the restrooms Kris Dingfield, another volunteer, is installing drywall in the ceiling of the niche (where we keep membership information and spare BBGs). There was no drywall there before—only acoustic ceiling tiles. After this repair, Chris will also add some insulation up there—another necessary item that was lacking. He is looking at other repairs too.

To facilitate painting, Steve Blyskal and yours truly emptied and moved the display cases, dusted them, and then put everything back in place after the walls were painted. They look so much brighter and cleaner now.

Other changes are in progress that you cannot see because they are up on the roof. That's right—we have one new air conditioner! This installation also is not quite complete as of this writing, as some new sheet metal must be fabricated. After that is installed, the contractor will rebalance the air flow to bring much-needed ventilation to the libraries and the office. When

President's Message continued on Page 4

Upcoming Program

by Michael Sommers, 1st Vice President

General Meeting Program—July 23, 2019: Neal Immega is giving a presentation on the 2019 International Exposition of Agates, just recently concluded in Austin. Steve Blyskal also attended, and both took a lot of pictures of the fabulous displays. We can live vicariously through their photos.

Contents

President's Message	1
Upcoming Program	1
HGMS Purpose	3
HGMS 2019 Officers, Section Chairs, and Appointed Positions	3
Pyrite Pete—We have air conditioning! We have fresh paint! Come see!	4
Sublette County Rock Hounds	5
Lapidary Section Program—Monday, July 15, 2019	6
General Meeting Minutes for May 28, 2019	7
Board of Directors Meeting Minutes for June 4, 2019	10
The Four Ways Diamonds Are Formed	13
Bench Tips	15
Wyoming Agates	16
IS PETRIFIED WOOD MADE OF WOOD?	22
WHAT IS TEREDO PETRIFIED WOOD?	22
Dr. Jeffrey Post: What's new with the Smithsonian Gem and Mineral Collection?	23
Show Time—2019	26
Calendars	27

Permission to use material originating in this newsletter is given freely providing that credit is given to the author and the source.

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

Articles now are due on the 15th day of the month before the date on the BBG issue.

Editor: Phyllis B. George
22407 Park Point Drive
Katy, TX 77450-5852

Phone: (281) 395-3087

Copy is due for the August 2019 issue by Monday, July 15, 2019.

E-mail the Editor 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 and South Central Federation of Mineral Societies.

2019 HGMS Officers

President	Sigrid Stewart	President@HGMS.org
First Vice-President	Mike Sommers.....	Programs@HGMS.org
Second Vice-President	Beverly Mace	Membership@HGMS.org
Secretary.....	Nancy English	Secretary@HGMS.org
Treasurer.....	Tatyana Kuhne	Treasurer@HGMS.org
Past President.....	Paul Brandes	
Archeology Section Board Member	Nancy Engelhardt-Moore	Archaeology@HGMS.org
Beading Section Board Member	Kim Fuselier	Beading@HGMS.org
Day Light Section Board Member	Fred Brueckner	
Faceting Section Board Member	Randy Carlson	Faceting@HGMS.org
Lapidary Section Board Member	Phyllis George	Editor@HGMS.org
Mineral Section Board Member	Steve Blyskal	Mineral@HGMS.org
Paleo Section Board Member	Mike Dawkins	Field_trips@HGMS.org

HGMS Section Chairs

Archaeology Section Chair	Bob Moore.....	Archaeology@HGMS.org
Beading Section Chair	Kim Fuselier	Beading@HGMS.org
Day Light Section Chair	Position Open	DayLight@HGMS.org
Gemstone & Faceting Section Chair	Randy Carlson	Faceting@HGMS.org
Lapidary & Silversmith	Margaret Hardman-Muye	Lapidary@HGMS.org
Mineral Section Chair	Stephen Blyskal	Mineral@HGMS.org
Paleo Section Chair	Neal Immega	Paleo@HGMS.org
Youth Section Chair.....	Beverly Mace.....	Youth@HGMS.org

HGMS Appointed Positions

Assistant Show Chair.....	Clyde McMeans	
Backbender's Gazette Editor	Phyllis George	Editor@HGMS.org
Clubhouse Chair	Neal Immega	ClubhouseChair@HGMS.org
Day Light Contact Person.....	Mary Ann Mitscherling	DayLight@HGMS.org
Donations	Neal Immega	Donations@HGMS.org
HGMS Education Chair	Position Open	Classes@HGMS.org
Lapidary Templates	Mary Ann Mitscherling	Templates@HGMS.org
Librarian for Main Library (Acting).....	Neal Immega	Librarian@HGMS.org
Publicity Chair	Sara Metsa	Publicity@HGMS.org
Scholarships.....	Mike Sommers	Scholarships@HGMS.org
Show Chair	Scott Singleton	ShowChair@HGMS.org
Trade Show	Scott Singleton	Tradeshow@HGMS.org
Trade Show	Sigrid Stewart.....	Tradeshow@HGMS.org
Volunteer Coordinator.....	Nancy English	VolunteerCoordinator@HGMS.org
Webmaster	Sigrid Stewart.....	Webmaster@HGMS.org
Youth Section Assistant	Elizabeth Guynn.....	Youth2@HGMS.org

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 (except December) at 7:30. The HGMS Web site address is <https://hgms.org>.

President's Message continues

they are finished, you will be able to peruse the books and periodicals in the library in comfort.



Pyrite Pete says,

It will be GREAT to have a working air conditioner for the Meeting Room and the two libraries.

ALSO, the Meeting Room now has two new coats of paint, and it looks very nice. Come to a meeting and see!

Sublette County Rock Hounds

by Nancy Fischer

I couldn't resist responding to a notice I saw in an issue of the local paper last summer. The Sublette County Rockhounds were meeting in front of the Marbleton, WY town center to go on a rock hunting field trip. I grabbed my friend and her two kids (one of whom is crazy about rocks), and off we went. Marbleton is only about 40 minutes away from our base near Pinedale. There was a congenial group of about 20 folks gathered. There was a brief business meeting of the club. I officially joined the club, and we took our place in the caravan of trucks.

We headed south just past Big Piney and drove into the hills. Our leader had been working in that area years ago. We wound around the well-maintained dirt roads for quite a while until we came to an abandoned gas well. We were shown examples of what to look for. We were on the hunt for banded chert. As an agate hunter, I had always considered chert to be leaverite, but these were quite pretty with a surprising amount of color. As you looked out across the hills, you could see several green circular areas. I was told that those were historical meeting places for the indigenous people who lived in the area.

But the rock hunt, as fun as it was, is not my point. I'd really like to introduce you to the Sublette County Rock Hounds. The club was formed by Jim and Leane Gray in June 2016. Thirty-eight people came to the first meeting. There are about 270 members today. Many of the members are from out of state and are active only seasonally. Their first Gem & Mineral Show was held in August 2017. They hosted the Wyoming State Mineral Society at last year's show, and they will host the Rocky Mountain



Sublette County is almost 5000 square miles with a population that hovers around 10,000 people. In comparison, Harris County is just under 2000 square miles with almost 4.7 million residents.



**July 2018 business meeting,
Sublette County Rock Hounds**

show. They will host the Rocky Mountain

Federation of Mineralogical Societies in 2020. This year's show will be held at the Sublette County Fairgrounds June 14–16.

Jim and Leanne own a rock shop in Marbleton. Jim is not only the president of the Sublette County Rock Hounds, but he also has been President of the Wyoming State Mineral Society for 1½ years.

The club meets once a month, with the exception of January and February. Meetings are held at the Marbleton Senior Center, and they have a couple of potluck dinners a year. There is a silent auction, an invited speaker gives a presentation about a selected mineral. They also try to schedule two rock hunts a month during the summer—led by club members.



Hunt area south and slightly east of
Big Piney, WY

Lapidary Section Program—Monday, July 15, 2019, 7:30 -9:30. *by Nancy English*

Cathy Prieto-Smith will teach a class in **Dichroic Glass**. The business meeting will be shortened, no Show-n-Tell. The class size can only be **ten (10)** people. You must **RSVP by Friday July 12, 2019, NOON. c.prietosmith@charisma-designs.com**. Cathy will send you a Dichroic Glass pdf of instructions once you have confirmed your spot with her. All tools and supplies will be provided at a cost of \$6.00. Each student will take home one finished piece.

Nancy English said The Day Light class was delightful. The cabochons we made are beautiful. Cathy is an animated, well-organized instructor with many important tips on current and future projects.

If you took the Day Light Section class in June, you are not eligible for this class. Cathy does not allow people to audit her class. No walk-ins. You must preregister.

Nancy English
HGMS Secretary and Volunteer Coordinator
nancyjodi@aol.com

General Meeting Minutes

June 25, 2019

by Nancy English, HGMS Secretary

President **Sigrid Stewart** called the meeting to order at 7:35 p.m. She thanked all 30 people for coming to the June General Meeting. Sharon Thomas, who joined earlier this year, was attending her first General Meeting.

Minutes: Steve Blyskal moved to approve the minutes of the May 28, 2019 General Meeting as posted in the June 23, 2019 e-blast and corrected. Mary Ann Mitscherling seconded the motion, and it passed.

President's Announcements

HVAC update: The replacement of one of the two 5-ton A/C units is scheduled for Friday, June 28. This should not impact any scheduled activities for the weekend. The new unit will cool and heat the main meeting area, both libraries, and the office. Thanks go to Fred Brueckner and Sigrid Stewart, for meeting with the companies, collating the information from the HVAC companies, and making the bid form to send to the final three. Thanks to Nancy English for suggesting Lee Thompson Air Conditioning. Fred and Randy Carlson were both very helpful in assisting President Stewart interview and choose the company.

Post General Meeting news: The 5-ton unit was installed with temporary ductwork while sheet metal ductwork is fabricated. Balancing the airflow to libraries and office will be done the week of July 1.

Painting: Look at this room! The woodwork is finished; the two sidewalls are complete. The back wall needs one more coat. The display cases are cleaned and set up. The contents will be put back later this week. The wall hangings will be put back, and framed posters from past Annual Shows will be hung on the back wall after the second coat of paint is dry. Thank you to Jack Opatrany, Tatyana Kuhne, Steve Blyskal, and Sigrid Stewart who painted. New white paint will be put on the presentation wall. Kris Dingfield volunteered to replace the ceiling above the alcove with solid decking and insulation. Thanks, Kris. Nancy English relayed ideas for murals of minerals, rocks, and fossils on the blank areas of the walls.

Our New Treasurer, Tatyana Kuhne, has fully embraced her position. We thank her for volunteering for this daunting job, learning *Quicken*, and setting up schedules for payments through out the year.

The Silent Auction opened at 7:00 p.m. Bids will end after the break. Payment for winning bids will be collected after the program—**cash or check only**.

Section/Committee Reports

In the interest of time, President Stewart asked members to look for reports of Section news in the BBG, on the Web site <https://hgms.org>, or by reading the weekly e-blast from Jim Kendall for future Section meetings and presentations. If you are a member and not on Jim Kendall's e-mail list, please contact him at kendallja@att.net. President Stewart invited other Section Chairs and Standing Committee Chairs to make any additional announcements.

Nancy English announced that the **Day Light Section** meeting is **postponed to July 10, 1:00 to 3:00** because of the Fourth of July holiday. She introduced **Diane Schaub**, who will teach the program.

Diane said members will learn how to make a coaster-sized mosaic. There will be a small cost for supplies—\$3.00 to \$5.00. Diane will bring some small pieces of glass to use. Members should bring small cabs, buttons, coins, nice trinkets you may want use on your coaster. Items should be non-porous and flat on the bottom. Contact Nancy English to RSVP for the class.

Paleo Section: Neal Immega, Paleo Section Chair and Houston Museum of Natural Science Docent, announced that at the HMNS during the summer, Thursdays are admission-free from 6 p.m. to closing. Neal will give tours of the Paleo Hall to HGMS members starting at 6 p.m.—If you call him in advance to schedule his time.

Old Business

In the interest of time, President Stewart asked members to look for the progress of Old Business items in the BOD Meeting Minutes in the latest BBG.

Education Classes: Several people have said they would give a class. Randy Carlson has a Faceting Class scheduled. Watch the weekly e-blast, and check the Web site for upcoming classes.

Library: A Dell desktop PC has been purchased for the library and installed along with TechSoup -discounted Microsoft Office 2019. The CZUR scanner is connected and working. The scanner and software appear to perform extremely well, and they will allow scanning and digitization of most library materials as needed. We are in the process of learning what the scanner can do and how best to use it. We will likely buy a new printer of some sort that will allow wireless printing in the library, from the main classroom, and possibly from anywhere in the building. When asked for a comment, Neal said, "Come in, check out a book."

Shop News:—Adjustable chairs: Tony Lucci said the chairs would be cable-wired to the benches in the classroom. All agreed that Tony will be in charge of selecting and obtaining the proper chairs and securing them to the benches.

The Lapidary Section has requested a set of grinding wheels with wide (3"–4"?) belts for use by people wanting to polish large rocks. Using the narrower wheels for polishing large rocks destroys the belts. The narrower wheels are only meant for working on cabochons. Also, some new wheels would be good.

Web Site Committee: The committee discussed syncing users for MailChimp, and realized there are some problems that will be addressed. Sarah is reducing the list. If the recipient does not answer an email, that name is removed. Lauren corrected some problems with images in the Media Library. Sigrid fixed a problem with tax on a Paleo book order. The team discussed changes and additions to be made before the November show.

Doorbell: Tony Lucci installed two doorbells that also include a flashing light. One is located in the shop; the other one will go on the wall in the meeting room after the painting is finished.

Field Trips: Mike Sommers scheduled another Midlothian field trip. This one is for July 13, 2019. Watch for more information in the weekly E-blast. Every trip scheduled since October of 2017 has been rained out.

Trade Show Meeting: The Trade Show Committee met on June 22, 2019 to wrap up the April Show and to start work on the January 2020 Show.

New Business

Security: On June 14, Audrey Kelly at Dunn Southwest reported that a robbery occurred June 13

in the OnePoint parking lot between the hours of 9:30 p.m. and 6:00 a.m. A van was broken into and tools were taken. The gate was left open overnight. Cameras did not get details. There is still no further information on this.

In May, Randy Carlson's truck was broken into in the HGMS parking lot.

President Stewart cautioned members to lock their cars and trucks and to leave the building in pairs after nighttime meetings.

Fabrication Classroom Exhaust Fan: Tony Lucci volunteered to install an exhaust fan in the Fabrication Classroom that will vent through the building roof.

The next Board meeting is July 2, 2019 at 7:30 p.m.

The next General Meeting will be Tuesday, 7:30 p.m. July 23, 2019. Neal Immega will give a talk on the Agate Expo in Austin and on agates in general.

President Stewart asked if there was any further New Business. There was none.

Show 'n Tell:

Steve Blyskal and President Sigrid Stewart attended the Agate Expo in Austin. They went to interesting talks on agate locations in Mexico, Germany, and New Mexico. Other talks presented covered Laker agates, Argentina agates, Russian agates, Idaho agates, and jaspers and the agates of the Southwest USA. There were 20 very nice exhibit cases featuring many different kinds of agates. Special ones were on Alibates Flint (Texas) and an exhibit of South Texas agate by Matt Dillon, a club member. Steve showed agate specimens he had acquired at the show, including Agua Nueva agate, Laguna Agate, Montezuma Agate, and a few Laker agates. He also found some minerals to purchase including a rhodochrosite and a fluorite, both from Mexico.

Scott Singleton brought two spheres made by HGMS member Nathan Gandara. The spheres were made from Scott Singleton's Teredo-bored petrified wood from Kerr County, Texas.

Drawing: Scott Singleton won the chunk of lepidolite rough. Nancy English won the Lapidary T-shirt.

President Stewart reminded the crowd to check the Silent Auction table during the break and to make their final bids. Payment will be taken by check or cash after the program.

Adjourn: Phyllis George moved to adjourn the business meeting, and Steve Blyskal seconded it. The meeting adjourned at 8:10 p.m.

Refreshments were served by Jack Opatrany. Thank you, Jack. Members were reminded to **FEED THE KITTY!**

President Stewart explained that the refreshments will be reimbursed up to \$25.00.

No one offered to bring refreshments to the next General Meeting on July 23, 2019.

Vice President Sommers introduced the Program: Neb Mekonnen gave a presentation on Ethiopian opals. We heard details of his adventures in sourcing the material along with valuable information about the opals themselves. Neb, owner of The Opal Trove, showed amazing pictures of the Opals found in Ethiopia.

Board of Directors Meeting Minutes

June 4, 2019
by Nancy English

X	President—Sigrid Stewart		Beading—
	Former President—Paul Brandes		Day Light—Fred Brueckner
X	1st Vice President—Mike Sommers		Gemstones & Faceting—Randy Carlson
X	2nd Vice President—Beverly Mace	X	Lapidary & Metalsmithing—Phyllis George
X	Treasurer—Tatyana Kuhne	X	Mineral—Steve Blyskal
X	Secretary—Nancy English	X	Paleontology—Mike Dawkins
X	Archaeology—Nancy Engelhardt-Moore	X	Youth Section —Beverly Mace

President Sigrid Stewart called the meeting to order at 7:39. A quorum was present. Foster Kneeland was the only non-voting member in attendance.

Approval of Minutes: Phyllis George moved to accept the May 14, 2019 BOD minutes as corrected. Nancy Engelhardt-Moore seconded the motion, and it passed.

Treasurer Report: Tatyana Kuhne presented her first draft of the May 31, 2019 financial report. She still needs balances and activity from the Prosperity Bank savings account and the Certificates of Deposit to complete the report.

PRESIDENT'S COMMENTS

The Agate Expo, held in Austin the weekend of June 5–9, only happens every three or four years. It is the biggest show for agate collectors. Dealers come from Germany and Argentina, as well as from all over the United States. Informative talks happen every day, all day. Steve Blyskal and President Stewart will attend.

COMMITTEE REPORTS

BBG Editor: Articles for the July BBG are due Saturday, June 15, 2019. The June 2019 BBG is delayed. Expect it to be complete by the weekend, June 8, 2019.

Education Committee: The Board discussed Sigrid's "Setting Up Classes" document. The Board agreed with her suggestions. The payment to the Club for use of the classroom and Jewelry Lab were determined. Instructors will pay the Club \$5.00 to use the middle classroom for half a day—four (4) hours; \$10.00 for a full day. The Jewelry Lab/Metal Shop costs the instructor \$15.00 for half a day and \$30.00 for the whole day. Maggie Manley showed interest in the Education Committee at the General Meeting. Sigrid will be discussing the job with her.

Library Committee: No Report.

Publicity Committee: Mail Chimp was not used at the Conroe Show, and the producers of the Texas Fossil and Mineral Show have not sent the door prize entry information to Nancy English as promised.

Scholarship Committee: The deadline for applicants is June 15, 2019. There has been one inquiry, but no applications. Mike Sommers suggested that we offer the universities closest to Houston \$500 towards a research project or a grant for travel. The Board will revisit this idea later. It was suggested that a poster be displayed at the Annual Show, advertising the \$2500 and \$500 scholarship to incoming patrons.

Show Committee: Steve Blyskal reported that three of the regularly-scheduled Dealers could not attend this year. He is contacting dealers on the waiting list. Steve and Sigrid are tracking the dealer payments manually and through Word Press CSV. Tatyana Kuhne offered to do a duplicate record on her Quicken backup spreadsheets.

2019 Trade Show Committee: The April Trade Show review meeting was postponed due to weather and reset for June 22 at 3:00 p.m. The committee will begin plans for the January 2020 Trade Show.

Web site Committee: Sigrid fixed a problem with Paleo Book sales.

SECTION REPORTS

Archaeology Section: The Section is on summer hiatus, resuming with the September 5, 2019 meeting at 7:30 p.m.

Beading Section: Saturday, 1:30 p.m., June 15, 2019. The program is a beautiful Ring Pattern designed by none other than our very own Cindy Wei. She will instruct and lead us in creating the Happy Ring design.

Day Light Section: Wednesday, 1:00 p.m., June 5, 2019, Cathy Prieto-Smith will teach Glass Cab Fusing, working with dichroic glass. \$6.00 fee. Class extends to 3:30 p.m. so students can take their work home with them.

Gemstones and Faceting Section: Wednesday, 6:30, p.m., June 12, 2019

1. Brenda Bromley will be selling her father's faceting rough inventory.
2. Review of gemstone enhancements.
3. Gem ID—Refractometer.

Lapidary and Silversmithing Section: Monday, 7:30 p.m., June 17, 2019 Tony Lucci will finish instructing the bracelet class. For attendees not working with Tony, John Mitscherling will teach them how to make braided wire and to make it into a simple bracelet.

Mineral Section: Wednesday, 7:30 p.m., June 19, 2019—The Mineral Section is hosting a Swap/Sale night at the clubhouse where members can bring minerals to sell/swap. While technically a Mineral Section event, other club members are welcome to bring rocks, etc. too. The event is also being advertised on individual Facebook pages.

Paleo Section: Tuesday, 7:30 p.m., June 18, 2019 The Last Mammoths at Wrangel Island, and why they died only 2000 years ago.

Youth Section: Saturday, 10:00 a.m. to Noon, June 1, June 15, July 6, and July 20, 2019—Making cabochons.

OLD BUSINESS

Building Issues:

Air Conditioners: Fred Brueckner, Randy Carlson, and Sigrid Stewart will pick the HVAC company from the three who returned the standard bid form Fred created. One is already disqualified due to having ignored some of the questions. The other two are being examined.

Paint Main Hall: The Board looked at the paint chips and gave input on the colors for walls and trim. Sigrid Stewart, Tatyana Kuhne, and Jack Opatrany will go to Home Depot to buy paint samples and supplies this week.

Building Safety: No report

Donations: Some issues were resolved; others need more work.

- **Receipt and recording of donation.** The completed, agreed-upon form will be copied and attached to the clip board in the garage with a set of instructions like these. Online forms for donations that will be picked up can be completed, printed, and taken with the person retrieving the largesse. Whoever accepts the donation is responsible for completing the form and notifying the BOD that the donation has been received. Return a copy of the form to the President's in box on the office door. Leave the original with the donor for their records.
- How can a Section make a claim?
- Who approves the sale of an item?
- Who is responsible for ensuring that a donation is processed per the donor's instructions?
- Where should the donations be housed until they are distributed (i.e., sold, kept for club use, saved for Info Booth or Auctions)?
- Storage is a huge issue for Neal Immega, who stored thunder eggs in his own driveway. Neal has managed donations very capably for many years. We will consult with him about storage and in determining which Sections get certain donations.
- **Randy Carlson's comments via email regarding the Donation:** Our policies and the donation form need to state that when the donation is turned over to HGMS, it will be used at our discretion. Although we will try to honor the wishes of the donor, the disposition of the donation is up to the HGMS officers and/or the Section Chairs of HGMS.

Membership Form Emergency number: Nancy Engelhardt-Moore moved to add an emergency contact field on the Membership form. Mike Dawkins seconded the motion, and it passed. The contact information can be used to check up on people we cannot reach and whom we believe need a welfare check, or to find out about services when a member dies.

Shop News: No report.

Treasurer: The new signers for the Chase Bank accounts met at the Bank this morning, June 4, 2019, 10:00 a.m., and signed new signature cards for the Operating account, PayPal account, and Savings account. Just prior to the Board meeting, and at Nancy

English's request, Scott Singleton provided Tatyana Kuhne with the codes to the PayPal.com account so she can reconcile it to the PayPal checking deposit and Quicken spreadsheet.

Nancy English moved to replace two signatures on the Prosperity Bank accounts. Matt Dillon, Rodney Linehan, and Beverly Mace currently sign on the checking account ending XXXX and two CDs XXXX and XXXX. The new signers are Sigrid Stewart, Beverly Mace, and Nancy English. Nancy Engelhardt-Moore seconded the motion, and it passed. Treasurer Tatyana Kuhne, will be authorized as a Sub-user with the authority to transfer money into the Building Fund and view the account activity and statements online.

New signers will meet at Prosperity Bank on Monday, June 17, to change signatories on the HGMS Building account. The CD signatures can only be changed at maturity later this year.

NEW BUSINESS

The next Board of Directors meeting will be Tuesday, 7:30 p.m. July 2, 2019.

The next General Meeting will be Tuesday, 7:30 p.m. June 25, 2019. Neb Mekonnen is scheduled to give a presentation on Ethiopian opals. We will hear details of his adventures in sourcing the material along with some info on the opals themselves.

Adjourn: Steve Blyskal moved to adjourn the meeting. Phyllis George seconded it, and the motion passed. The meeting adjourned at 9:45 p.m.



The Four Ways Diamonds Are Formed

*via Rocky Trails 12/2017, via The Franklin County Rockhouser
01/2018, via The Rockcollector 01/2018,
via The Roadrunner 06-07/2019*

How old do you think the average diamond is? One thousand years? One million, maybe? Try one to three billion years old. Diamond formation is not a fast or simple process. In addition to time, it also takes incredible heat, massive pressure, and carbon to produce diamonds. The rare conditions necessary to produce diamonds are part of what makes them so precious.

The Earth's Mantle: The earth's mantle is one of the few places on earth where the temperatures are high enough and the pressure is great enough to form diamonds. Only a small portion of the earth's mantle is suitable for diamond formation. The carbon rocks and high



temperatures needed for diamond creation can be found 90 miles deep into the earth's crust. But the pressure needed to create diamonds is not as predictable as the temperature.

Scientists theorize that the pressure needed to create diamonds is present beneath the center of continental plates, where the pressure is steady. Diamonds are created and stored in these "diamond stability zones" until they are brought to the earth's surface in a deep-source eruption. This incredibly rare type of eruption rips out a piece of the mantle, and carries it to the surface at an extraordinarily rapid rate.

Subduction Zones: Another way diamonds are formed is in what's called a subduction zone, which occurs when two tectonic plates collide, and one is forced down into the earth's mantle. When carbon rocks from the surface are subjected to the increasing heat of the mantle combined with the pressure from the colliding plates, tiny diamonds are formed in these rocks. This process can occur at slightly lower temperatures and shallower depths than those necessary for diamond formation in the "diamond stability zones." When the subducted rocks return to the crust, these small diamonds can be found within them. Subduction-zone diamonds' small size and lack of clarity make them unsuitable for industrial or commercial use.

Impact Sites: An asteroid colliding with carbon rocks creates the pressure and heat needed to produce diamonds. The theory that an asteroid impact could create diamonds has been supported by the presence of very small diamonds found at asteroid crash sites. Like subduction-zone diamonds, impact-site diamonds are not suitable for use, because they are small and of low quality.

Space Diamonds: Scientists from both NASA and the Smithsonian have found diamonds in meteorites. With carbon in the meteorites, and the heat and pressure necessary for diamond formation present in the meteorites' creation, it is logical that diamonds could be found in meteorites. Unfortunately, much like subduction zone diamonds and impact-site diamonds, meteorite diamonds are not fit for industrial or commercial use.

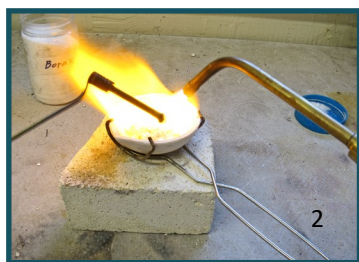
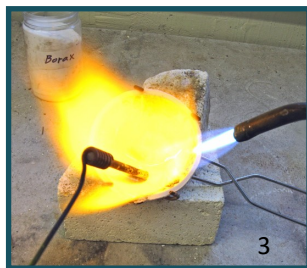
<http://katu.com/sponsored/sell-gold/the-four-waysdiamonds-are-formed>

Red and Green Rock with diamonds: Russian miners at the Alrosa's Udachnaya diamond mine pulled a strange red and green stone out of the ground. They knew by instinct that they had something extraordinary. The red and green stone looked different from the thousands of tons of earth and ore they process each day. The workers had just unearthed a 30 mm rock that contained 30,000 diamonds, one thousand times higher than normal. However, the diamonds are so small that they cannot be used as gems. According to Live Science, Larry Taylor, a geologist at the University of Tennessee, said, "The exciting thing for me is there are 30,000 itty-bitty, perfect octahedrons, and not one big diamond. It is like they formed instantaneously." Taylor, in close association with scientists at the Russian Academy of Sciences, has been studying the Udachnaya diamonds. The scientists used an industrial X-ray tomography scanner—much akin to the medical CAT scanner—to study the structure of the Diamond. The scientists also used electron beams to identify the chemicals trapped in the spaces between the lattices. The findings revealed that the diamonds were created by liquids from the subducted oceanic crust and made of a thick rock called peridotite.

www.apextribune.com/strange-rock-embedded-with30000-diamonds-puzzle-scientists/22496

Bench Tips: by Brad Smith

Work Smarter with Brad's "How To" Jewelry Books:
<http://www.Amazon.com/author/bradfordsmith>



NEW MELTING DISH

A new melting dish or crucible must be given a protective coating of borax before its first use. Borax extends the life of the ceramic material. Once done, it generally does not have to be repeated.

The procedure is straightforward. Heat the new melting dish to red with a large torch. You will need plenty of heat. I use an acetylene/air Prest-O-Lite torch with a large #5 nozzle.

When the dish is hot, sprinkle in a half teaspoon of borax. Let it melt, and spread it with a carbon rod over all of the interior surface of the dish. Add more borax if needed.

Sometimes you will have to hold the dish at an angle to coat the sides up to the rim. And don't forget to coat the pouring spout itself.

RING SIZE VARIATIONS

The numerical sizes marked on ring gauges and ring mandrels are often not the same across different manufacturers. If you are using a ring gauge to measure a customer, be sure to compare the markings on the gauge with the markings on the mandrel you use to make the ring. They may not be the same.

Also, you may need to adjust a little for the width of the ring shank. If you are making a wide shank ring, the ring generally has to be a little bit larger in diameter than the ring gauge size in order to get a comfortable fit.



Wyoming Agates

from Jade State News 05/2019,

Newsletter of Wyoming State Mineral & Gem Society, Inc.

Thanks go to Nancy Fischer for submitting this newsletter.

WHAT ARE AGATES?

Chalcedony (cryptocrystalline quartz), in its pure form, is transparent when exposed to concentrated light. When a small amount of impurities or foreign materials is added, the color of the cryptocrystalline quartz changes and its ability to transmit light decreases, creating semitransparent to translucent varieties of chalcedony.

Agates are a form of chalcedony that contain patterns caused by impurities within this cryptocrystalline quartz. The most common agate patterns caused by impurities are in the form of bands, concentric lines (dendritic), mottled, moss-shaped or plume-like. In addition, these patterns are often different in color from the chalcedony that contains it. The book ***Agates*** by Karen A. Brzys lists over 16 different agate patterns that can be found in Wyoming.

HOW DO AGATES FORM?

Agates usually form in areas where surface water seeps through igneous rocks or volcanic ash. As water flows through the cavities and crevices of the igneous rock or volcanic ash, it dissolves the silica from these parent materials. If the dissolved silica in the water has a particularly high concentration, a silica gel can form within openings of the rocks below. Eventually, that gel can crystallize into microcrystalline quartz.

As more time goes by, additional layers of the gel form, creating “younger” bands of microcrystalline quartz on the surfaces of the fractures and cavities. During this time, it is very easy for impurities to be mixed into the silica mixture. This is how the agates get their coloring, banding, and other patterns. Agates can also form—less frequently—inside openings between and within sedimentary rock layers.

Both igneous and sedimentary rocks, if exposed to weathering and erosion over a long period, results in the agates (being harder) becoming separated from their original depositional material. This is the reason why agates are often found in streams or downhill from the original layers of igneous or sedimentary rocks in which they formed.

WHAT ARE JASPERS

Jasper is an opaque variety of chalcedony. Opaque means that neither light nor images will come through it if you hold it up to a light source. The high amount of impurities in the jasper is what makes them opaque. Agates tend to be translucent because they contain fewer impurities and foreign materials than jasper, though both are forms of chalcedony.

HOW DO JASPERS FORM?

Jaspers generally form in areas where there is fine, soft sediment or volcanic ash. Over time, the silica-rich mixture begins to combine and “cement” the sediment into a solid mass. The varying sediment and ash and the chemical weathering of the impurities

within the jasper play an important role in the beautiful colors of some jasper deposits. With this sedimentary process, the resulting patterns for jasper are limited—the most common being banded or striated.

WHAT IS A JASP-AGATE?

By definition, a jasp-agate is a “jasper agate.” Under a strong light, an agate is translucent and a jasper is opaque to light. Since both are chalcedony, the amount of impurities must cause the difference. Therefore a Jasp-Agate is a combination of an agate and jasper. A jasp-agate can be recognized by a pattern separation of translucent and opaque chalcedony. [A jaspilite is defined as a rock of alternating bands of red jasper and iron oxides=banded iron. For simplification in the following listing of the major agate types and locations in Wyoming, jaspilites were listed as Jasp-Agates.]

WHAT ARE PSEUDOMORPH AGATES?

Pseudomorph Agate is created by a process in which quartz that is dissolved in groundwater fills in and duplicates the original cell structure of a pre-existing organic material (such as wood or bone). By definition, “pseudo” means false and “morph” means body so pseudomorphs are false bodies.

Not being true agates, Pseudomorph Agates will not be in the following listing of the major agate types and locations in Wyoming.

MAJOR WYOMING AGATES

The following is an alphabetized list of the major agate areas and their approximate locations in Wyoming. Because weathering, erosion, and deposition are constant in Wyoming, these areas will expose new finds year after year. However, it is the Rockhound's responsibility to study these locations and their current land ownership before going to the field in search of Wyoming agates.

ANGEL AGATE / MOONSTONES: Angel Agates and moonstones are found in the Granite.

DRYHEAD AGATE: The Dryhead Agate, a colorful red and white banded fortification agate, weathers out of the Phosphoria Formation the northern Bighorn Basin [T58N, Rs94, 95W]. Some bands of this agate will fluoresce green under short wave UV light.

FAIRBURN AGATE:

In the Black Hills of northeastern Wyoming, agates and Jasp-Agates can be found in the glacial outwash and stream gravels. The Fairburn Agate is rarely found and is identified by its brilliant colors and “holly leaf” shaped fortification lines. The Teepee Canyon agate found in Custer County, South Dakota can also be very colorful and have holly leaf fortification lines but have a limestone covering, whereas Fairburn Agates' have a waxier microcrystalline quartz based covering.

LYSITE AGATE:

Today Lysite Agate is found in isolated pockets of the Lysite Member of the White River Formation or as isolated pieces (“float”=separated by gravity) that have been exposed by

the continual weathering and erosion of Lysite Mountain. [T40N,R90W) Lysite Agate collected from the Lysite Mountain area is usually coated with a calcite layer, which requires most finds to undergo some lapidary treatment in order to create a "gemstone specimen." Because the chemical conditions that created this agate changed, Lysite Agate exists in many different forms. Lysite Agate most often appears as Mountains. [SWNW section 36, T29N, R89W]- north of Muddy Gap. Angel agate is a pale greenish gray color with a chalky white surface coating. Moonstones are clear chalcedony shaped balls coated with opal and white ash and are typically 1-3 inches in diameter. Both fluoresce a greenish yellow with UV. These agates are located in a 6-inch zone in the upper sandstone sequence of the split Rock formation.

BLACK BUTTES JASP-AGATE: This jasp-agate is described as reddish brown to dark gray with thin veins of white quartz. [NE section 26, T50N, R62W] Also at this location, mineral ores can be found within a breccia resulting from mineralization occurring with silification within the Pahasapa Limestone.

The mineral ores are contained in a breccia of limestone cemented by massive galena that may also contain: hemimorphite (white prismatic crystals filling vugs of reddish brown jasper), wulfenite (resinous, transparent yellow to yellow-orange crystals), with minor occurrences of sphalerite (dark, resinous brown) and fluorite (deep purple).

BRIDGER AGATE: Bridger Agate is a dark gray to brown agate associated with the Bridger Formation south of Crooks Mountain [T26N,Rs96 - 97W & NW part of T27N, R97W].

CEDAR MOUNTAIN AGATE/JASP-AGATE:

Along the eastern flank of Cedar Mountain, several varieties of chalcedony can be found [Sections 2 & 19, T14N, R110W//Sections 22, 24, 25, T14N, R111W// Section 23, T15N, R111W]. The agates are multicolored to black with moss, flame, and plume patterns. The jasp-agate is red and yellow with white and blue streaks. Zebra flint is also found in this area and is white, brown, and black-striped flint. All of this material originates from the Bishop Conglomerate that caps Cedar Mountain on the west and south.

WYOMING AGATES a banded silica base agate with fortification lines created by colors ranging from reds to browns and white or clear (rare-blue) interlayered with calcite-based material. Lysite Agate also can occur with larger crystals of quartz and calcite deposited in voids, or with cavities covered with small crystals = Drusy Appearance, or with a surface covered with small rounded/grape-like bumps = Botryoidal Appearance.

MEDICINE BOW PLUME AGATE:

Medicine Bow Plume Agate features dark plume inclusions set in milky-white translucent chalcedony. The source area is located 13 miles east of Medicine Bow (or 44 miles west of Laramie on U.S. 287/30). Turn north on Marshall Road/Albany County Road 610 (improved dirt road for 36.5 miles, and then turn west for 1.6 miles. Park to find small banded moss agate (+4 miles banding disappears within pieces found. Larger pieces may be found on ridges to south?)

PRAIRIE AGATE:

Prairie Agates are commonly found in the Black Hills of northeastern Wyoming in association with the rarely found and more valuable Fairburn Agates. Prairie Agates have more concentric banding (not holly leaf shaped) and are not as colorful as the Fairburn agate. Jasp-Agates are also commonly found in this area but lack fortification lines and are identified as a marbled mixture of chalcedony and different colored jaspers.

QUAKING ASP JASP-AGATE: South of Rock Springs, on Quaking Asp Mountain [NW Section 22, T17N, R104W] is a dark to light gray agate with cross-cutting veins of quartz, and banded red, yellow-orange, and gray jasp-agate.

SEMINOE MOUNTAIN JASP-AGATE: This jasp-agate is found in the stream gravels that are washed down from the Seminoe Mountains near the Miracle Mile of the North Platte River. It contains a mixture of jasperized iron that is magnetic and appears as alternating layers of black magnetite, dark gray quartz, and brown layers of jasper and grunerite.

SHIRLEY BASIN JASP-AGATE: In the northern Shirley Basin, a jasp-agate can be found that consists of pink breccia matrix cemented together with reddish-brown jasper and dark gray to black chert.

SLATER AGATE: Found near Guernsey, the Slater Agate's weathered surface may look like a fossilized sponge. This agate is found as concretionary masses with a white outer coating. If these concretions are cut open, they reveal the inside as a dark gray to black agate surrounding a milky colored interior that contains small darker dendrites. Slater Agate fluoresces bright green under UV light. The Guernsey Limestone formation as part of the Hartville uplift is the source of this agate. [Section 25,T27N, R66W]

SPANISH POINT AGATE: The Spanish Point Agate is a pale blue to multicolored chert agate with white surface occlusions. Found in the Big Horn Mountains, [T52N, R88W-Sections 20,21,28,29, 32,33], this agate has superior chipping characteristics and was highly used by native Americans as associated with many archeological sites. Spanish Point originated from a soft clay, possibly a weathered volcanic ash of the White River Formation.

SWEETWATER AGATE: Near the Granite Mountains in central Wyoming, Sweetwater Moss Agates can be found associated with the Split Rock Formation and occur in gravel deposits and in localized streambeds. They are commonly found as 1-4 inch nodules. These agates often are covered with a weathered brown coating, but when tumbled reveal a highly polished, light gray to blue agate with black manganese moss-shaped dendrites. This agate oftentimes will fluoresce a brilliant yellow with an ultra-violet light.

TIN CUP JASP-AGATE: This jasp-agate occurs in the western Granite Mountains [Sections 24-27, T31N, R93W] and appears as a jasperized breccia with angular fragments of blood red, chocolate brown, and yellow-brown jasper.

TRAPPER CANYON AGATE: The Trapper Creek Agate is a brown-to-cream colored dendritic agate, and it was quarried on the west side of the Big Horn Mountains at lower elevations on the Trapper-Galloway Ranch near Shell. [T52N. R89W-NWSW Section 24]

Trapper Creek Agate is thought to have originated from the Madison Limestone Formation, and being a dendritic agate, it does not chip well to make stone tools.

TWIN CREEK AGATE: Twin Creek Agate is an irregularly banded, red and golden-yellow flame jasper. It is associated with the ansden or Phosphoria formations in the Twin Creek area north of South Pass [SW Section 14, T30N, R99W].

WHITE RIDGE AGATE: White Ridge Agates are rounded, varying in size from 0.25"–0.50" in diameter and are translucent brown to gray with some having moss-like inclusions. These agates are found in the lower part of the Moonstone Formation [Section 14, T30N, R90W extending eastward into the next two townships].

YELLOW TREE AGATE: This jasper agate varies from yellow to light brown or light orange in color and has black tree-like dendritic patterns. It can be found west of Highway 28 at the base of Limestone Mountain [Sections 7-9, T30N, R99W].

YOUNGITE AGATE: Near Guernsey, Youngite agate consists of a limestone breccia that is cemented together with a light gray to grayish blue, banded, drusy quartz and chalcedony. Under long-wave fluorescent light, the drusy quartz appears as a blue color. Youngite is found in the Guernsey Limestone Formation. The required silica for the formation of this agate was leached from the overlying white River Formation. This agate was originally named after Dr. Young of Torrington, who discovered an extensive cave system along the North Platte River, lined with this agate. [N/2 Section 36,T28N, R67W]. Unfortunately, this cave is now underwater as a reservoir was developed on the North Platte, which flooded it. Some isolated float material can still be found in this region.

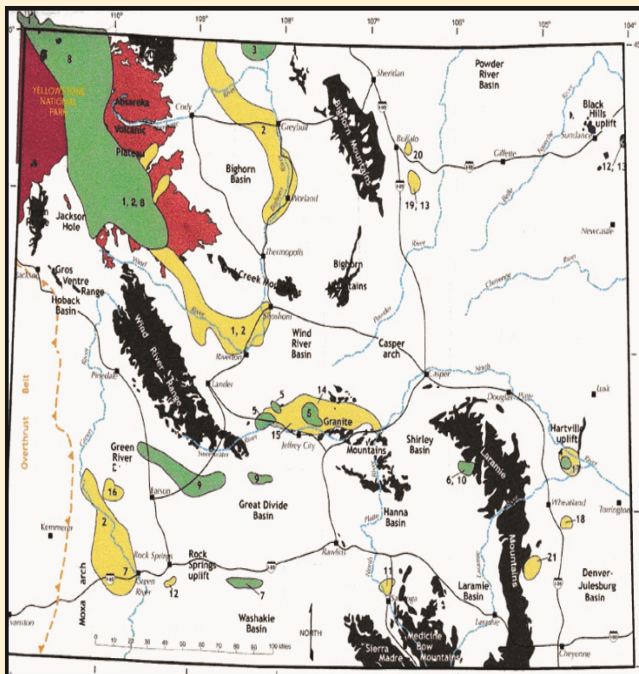
REFERENCE INFORMATION UTILIZED BY STAN STRIKE:

1. Gemstones & Other Unique Minerals & Rocks of Wyoming: WY Geological Survey-Bulletin 71-2000
2. Minerals and Rocks of Wyoming: WY State Geological Survey-Bulletin 72-2005
3. Agate, Jasper, Quartz, Chalcedony in Wyoming: <http://wyquartz.blogspot.com/2011/04/agate-jasperquartz-chalcedony-more.html>- Blog April 2011
4. Gems, Minerals & Rocks of Wyoming by W. Dan Hausel-2009
5. Rockhounding Wyoming by Kenneth Lee Graham-1996
6. Agates Inside Out by Karen A. Brzys-2010
7. <https://www.crystalsandgemstones.com/2014/09/06/what-are-the-differences-between-agate-a>
8. <https://www.healingcrystals.com/Difference-between-Quartz-Jasper-Agate-and-Chalcedony-Articles-189.html>

Most rockhounds appreciate and value the colored patterns of agates. It is hard to collect only a few agates because -no two agates are created exactly alike! Wyoming has an abundance of agates that can be found in all parts of the state and represent almost all of the major agate types.

Wyoming Agates continued from page 5

Most rockhounds appreciate and value the colored patterns of agates. It is hard to collect only a few agates because -no two agates are created exactly alike! Wyoming has an abundance of agates that can be found in all parts of the state and represent almost all of the major agate types.



MAJOR WYOMING AGATE LOCATIONS [REFERENCE: WY GEOL.SURVEY-BULLETIN 72]

Legend:

Yellow-Alluvial Materials

Green- Original Source Materials

Dark Red-Yellowstone Quat. Volcanics

Red-Absaroka Eocene Volcanics

Black-Precambrian Igneous/Metamorphic

Agates:

3. Dryhead Agate

4. Guernsey Agate

5. Sweetwater Agate

6. Medicine Bow/Marshall Agate

13. Amethyst Mineral

14. White Ridge Agate

17. Youngite Agate

18. Slater Agate

Pseudomorph Agates:

*1. Iris / Rainbow Agate

*2. Wood-cast Agate

*7. Gonibasis Agate

*8. Wiggins Petrified Wood

*9. Eden Valley Pet. Wood

*10. Shirley Basin Pet. Wood

*11. Saratoga Valley Pet. Wood

*16. Blue Forest Pet. Wood

*19. Crazy Woman Pet. Wood

*20. McNeese Draw Pet. Wood

Jasp-Agates:

**12. Jaspillite

**15. Tin Cup Jasper

**21. Iron Mountain Jasper



IS PETRIFIED WOOD MADE OF WOOD?

*from Tulip City Conglomerate, others, via Rock Rattler 04/1991,
via The Roadrunner 05/2019*

Petrification is a natural action by which vegetable and animal remains are changed to stone. This process of petrification takes place over a long period, perhaps millions of years. Petrified wood feels like a heavy stone—and so it is.

Millions of years ago, however, it was a piece of real wood that grew in the shape of a real tree. The tree fell, and its trunk lay covered with dirt. Water seeped through the soil around it, and the tree became buried in sand and mud.

The ground water, saturated with rock-forming minerals, seeped into the tree trunk. Dissolved minerals, including silica, were deposited on and in the decaying vegetation. This saturated water became trapped for a while in the little boxy cells of the wood, and as it evaporated, the minerals were left behind to fill the crevices and replace any decayed tissue. This happened many times—and bit by bit, the fragments of wood were replaced by minerals. The wood petrified—or turned to stone—but its stoney material replacements were arranged in perfect copies of the woody grain and boxy cells.

WHAT IS TEREDO PETRIFIED WOOD?

by Jerry Buklis

from The Grindings, via EUREKA NEWS April 1987

Teredo Petrified Wood is the official fossil of North Dakota as of March 15, 1967. However, as stated it is a misnomer. In reality it is a piece of petrified wood with holes bored by a worm-like mollusk, and the round holes are filled with quartz, chalcedony, opal, sand, etc. That is your **Teredo Petrified Wood**.

More on the shipworm—the common name of the mollusk. It lines its home with a secreted calcium compound. It has two small shells in front of its head that are used to bore holes by rocking and rasping; it has two pallets in the tail end that are used to seal the entrance to the living quarters; and it has two small siphons at the tail end to control the intake of water and expelling same. Remember—the wood is under water.

Each shipworm eats and excavates its tunnel home and grows in length until maturity, but should its home be punctured, it will die because of respiratory failure. The adult female secretes millions of eggs in a year. There are several species of mollusks involved: *Teredo*, *Bankia*, *Psiloteredo*, *Lyrodus*, *Nausitora*, *Nototerodo* and related forms, but *Teredo* takes all the credit. Today they are said to destroy the unprotected wood in water, but a long time ago, they were on the cleanup detail.

Teredo Petrified Wood is a desirable collector's item especially if the fillings are of gem quality.

What is meant by worms in wood and/or petrified wood?

The use of the word "worms" in this case is a misnomer since it is actually larva that bores holes, and some species nest in the wood. First we have the beetle which lays an egg or eggs, depending on the species. When the eggs hatch, we have a baby larva which upon maturity pupates—and the result is a beetle. There are more than a thousand species of the insects involved.

The difference between a beetle and a fly: the beetle has teeth and the fly does not. The larva has a hard plate with hooks in front of its face and bores by moving its head up and down. Penified wood with worm holes should be more desirable because it tells you more of the past.

Dr. Jeffrey Post:

What's new with the Smithsonian Gem and Mineral Collection?

*by Andy Thompson, MSDC Secretary
from The Mineral Minutes 06/2019*

The Smithsonian Museum of Natural History has responsibility of caring for and growing the nation's world-renowned collection of gems and minerals. Dr. Jeff Post oversees and curates the thousands of unique specimens as well as directs the Department of Mineral Sciences. During his May 1 presentation to MSDC, he described an iconic scene that, he said, he frequently experiences at mineral shows throughout the country.

MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA MONTHLY NEWSLETTER 3 June 2019 - Mineral Minutes

While searching for possible new acquisitions at the 2019 Tucson mineral show, one exhibit caught Jeff's eye: a display of Montana sapphires arching over what was reported to be the largest gem-quality sapphire, 64.14 carats (cts), ever discovered in the state. Dubbed the "Ponderosa," it was unearthed a few months earlier at the Potentate Mining Rock Creek Mine. As often happens at public mineral shows, Jeff's presence draws a crowd of collectors, on-lookers and occasionally curators of other museums. "Are you going to buy it?" they asked while Jeff examined the specimen and quietly negotiated on behalf of the Smithsonian. When Jeff finally answered "yes," the crowd erupted with applause, expressing their shared pleasure that the rare sapphire would now become part of the nation's collection.



**Ponderosa Sapphire: (clockwise from top left)
Rotated under U.V. light,
post cleaning, before cleaning**

That story captured important aspects of the message Jeff shared with MSDC attendees: new acquisitions require carefully considered discernment, thorough knowledge of what specimens the Smithsonian collection already has, which type minerals it needs, financial generosity enabling the purchases, and citizens' shared pride in the nation's collective ownership. Underlying this acquisition process are the many trusting personal relationships that help make the Smithsonian's collection the national treasure it is and makes its orderly curation possible.

Throughout the evening's entire presentation of more than 60 newly acquired minerals, Jeff showed photos and provided geological, historical, and interpersonal background describing how the minerals have made their way into the national collection at 10th and Constitution Ave., NW, in Washington, DC.

The first photo Jeff showed was of a recently acquired rutile and hematite specimen from Bahia, Brazil. Jeff learned from a friend in the mineral industry about the mineral's availability, its unique geometric shape, large size (about one foot long) and fine crystal structures. A west-coast philanthropist had expressed her willingness to underwrite the purchase. When the seller assured safe delivery by hand-carrying it to the NMNH in Washington DC, the Smithsonian collection was enriched, and the public will see it on display. As with the purchase of the Ponderosa sapphire, all the above-mentioned elements of trust and partnership contributed to the successful acquisition of this important specimen.



Rutile and hematite, Bahia, India

The second photo Jeff showed was a stunning faceted tugtupite (3.2 cts) from Greenland, named after its primary discovery site, Tugtup. Although there are tales that the native Inuit people have long celebrated this stone in their culture, geological collectors seem to have only "discovered" it in the 1950s and 1960s. Being one of the rarest known minerals, a beryllium aluminium silicate, today it is found at only two other sites, Mont Saint Hilaire, Canada, and the Kola Peninsula, Russia. One of the world's deepest red minerals, it is always intensely fluorescent. The color can vary, but it mainly is some variation between red and pink. The deep red gemmy appearance is increasingly sought after by high-end collectors.

It was only by the generous help of the Smithsonian Gift Collectors Group that Jeff could make the purchase. The less gemmy specimens are typically paler, often with a mix with white streaks, are much less expensive, and are used for low-end jewelry. For contrast, Jeff also acquired for the collection a set of inexpensive whitish tugtupite cuff links.

Another extraordinary acquisition was a two-foot-wide scolecite-on-stilbite specimen which came with an interesting origins story. It was found by well-diggers searching for water in Rankhanb Village, in the state of Maharashtra, India. While digging with picks and shovels, they found small samples close to the surface. Accordingly, they proceeded with caution as they carefully dug down twenty feet to where they found this unusually large, white and spikey specimen. The rarity is not only the size and fine condition of the sample, but also that they caught the entire dig and discovery on video.



**Scolecite-on-stilbite
Maharashtra, India**

Jeff then showed photos of more than sixty acquired minerals which included some obtained at the Denver and Tucson shows. They included a 6-inch wide roweite from the Shijanshan mine in Inner Mongolia, a pyrite cube in an 11-inch specimen mined in Navajun, Spain, and an opalized "thunder egg" from Ethiopia. The black, brown, and white calcite from Palmorejo Mine in Chihuahua, Mexico was of special interest to Jeff because the site included specimens of manganese oxide, which happens to be his favorite mineral to research.

Jeff also obtained samples of galena and brachiopods from the Elano mine in the Platteville, Wisconsin area where he did some of his graduate geology studies. He also brought back foot-long quartz specimen with needle-like spikes from the Muzo region of Columbia and calcite from the Linwood mine near Buffalo, Iowa and a huge foot-long barite crystal.

After showing us a picture of a white albite from Bulgaria, a 7-inch wide marcasite from Morocco and a fist-size wulfenite from the Congo, Jeff showed us another stunning acquisition—the now famous, deep red 48.86 carat topaz, already on display, the Whitney Flame (shown on right) donated by Coralyn Wright Whitney. Although many MSDC members knew of that acquisition and its spectacular display in the NMNH mineral gallery, what we all learned was that the donor also made it possible for the position of curator of the National Gem and Mineral Collection to now be independently funded. As a result, that important work of curation will no longer be vulnerable to government shut-downs. The importance of that gift was very much applauded by the MSDC attendees.



Quartz, Muzo Region, Columbia

Several of the recently acquired mineral specimens came with their own interesting histories. A beautiful aquamarine-colored beryl, for example, had, since 1920, been faceted and then kept in a Swiss bank vault. After nearly a century with no activity in the bank account, it was identified as “inactive” and by Swiss law its assets had to be disposed of. The unclaimed beryl was acquired by a mineral dealer from India who subsequently kindly donated it to the Smithsonian.



The cavalcade of photos of numerous, less storied but beautiful newly acquired minerals continued with a 2-inch wide green and white wavelite specimen having a botryoidal shape. It was followed by a rather expensive but generously donated “Windex blue” 5-inch high elbaite from the Rio Grande do Norte region in Brazil, given by a woman who received it as a gift for her 60th birthday and who then donated it for her 70th. Also added to the collection was a 4-inch cobalite from the Congo; from Kenya came a ruby which fluoresces red, along with a diaspore from Turkey, and a 16-inch specimen with an afghanite crystal from Afghanistan.

Jeff also shared stories of many persons who for years have been friends of the Smithsonian's Department of Mineral Sciences. A case in point was evident in a photograph taken at the 2018 Tucson mineral show. One police officer, for the past 15 years, has provided protection of the Smithsonian's displayed minerals. His familiarity with the staff and displays made him a valuable asset, including when he held in his hands and showed visitors an eye-catching 19,000-carat smoky citrine specimen. Again, that underscored Jeff's theme that mineral collection and curation rests on the bedrock of trust and personal relationships.

By the time Jeff showed his MSDC audience the 60th photo, showing an expensive and gorgeous 40.25 carat spinel from the world's oldest spinel mine, he concluded it was time to close the presentation and respond to a final round of questions from his enthusiastic listeners.

Show Time 2019

June 29-30 Grapevine, TX	Arlington Gem and Mineral Club Grapevine Convention Center, 1209 S. Main St agmcadvertising@gmail.com ; www.agemclub.org
Aug 2-4 Prescott, AZ	RMFMS hosted by Prescott Gem & Mineral Club Prescott Valley Event Center at Glassford Hill & Florentine http://www.prescottgemmineral.org/
Aug 10-11 Baton Rouge, LA	Baron Rouge Gem & Mineral Society Lamar Dixon Expo Center, 9030 South St. Landry Ave. mercymom3@gmail.com ; www.brgemandmineral.org
Aug 17-18 Bossier City, LA	Ark-La-Tex Gem & Mineral Society Bossier Civic Center, 620 Benton Rd. dglasner2001@yahoo.com ; larockclub.com
Aug. 24-24 San Antonio, TX	Southwest Gem and Mineral Society of San Antonio Wonderland of the Americans Mall I-10 and Loop 410 on Fredericksburg Road 210-372-9722; jspeck2@att.net
Oct 11-12 Mount Ida, AR	Annual Championship Quartz Crystal Digging Contest Montgomery County Fairgrounds, Fairgrounds Rd. director@mtidachamber.com ; www.mtidachamber.com
Oct. 12-13 Temple, TX	Tri-City Gem and Mineral Society Frank W. Mayborn Civic and Convention Center 3303 N. Third Street rolston@hotmail.com ; http://drarhie.wixsite.com/tcgme
Oct. 18-20 Austin, TX	Austin Gem and Mineral Society Palmer Events Center, 900 Barton Springs Rd. showchairman@austingemandmineral.org ; www.agms-tx.org
Oct. 18-20 Lewiston, ID	NFMS hosted by Hells Canyon Gem Club Nezperce County Fair Building, 1229 Burrell Avenue hcgemclub@yahoo.com ; http://www.hellscanyongemclub.com/
Nov. 8-10 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 HGMS.org ; Showchair@hgms.org
Nov. 23-24 Mesquite, TX	Dallas Gem and Mineral Society Mesquite Rodeo Center Exhibition Hall, 1800 Rodeo Dr lynnouvillion@gmail.com ; www.dallasgemandmineral.org

2019		July					2019
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
	1	2 11-3 Shop Open 7:30 Board Meeting	3 10-3 Shop Open 1-3 p.m. Day Light	4 Independence Day NO Archaeology Section Meeting	5	6 10-4 Shop Open 10-Noon Youth Section	
7 10-4 Shop Open	8	9 11-3 Shop Open	10 10-3 Shop Open 6:30 Gemstone & Faceting Section	11 10-3 Shop Open	12	13 10-4 Shop Open	
14 10-4 Shop Open	15 7:30 Lapidary Section	16 11-3 Shop Open 7:30 Paleo Section	17 10-3 Shop Open 7:30 Mineral Section	18 10-3 Shop Open	19	20 10-4 Shop Open 10-Noon Youth Section 1:30 Beading Section	
21 10-4 Shop Open	22	23 11-3 Shop Open 7:30 General Meeting	24 10-3 Shop Open	25 10-3 Shop Open	26	27 10-4 Shop Open	
28 10-4 Shop Open	29	30 11-3 Shop Open	31 10-3 Shop Open				

2019		August					2019
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
			10-3 Shop Open 1-3 p.m. Day Light	1 NO Archaeology Section Meeting	2	3 10-4 Shop Open 10-Noon Youth Section	
4 10-4 Shop Open	5	6 11-3 Shop Open 7:30 Board Meeting	7 10-3 Shop Open 6:30 p.m. Gemstone & Faceting Section	8 10-3 Shop Open	9	10 10-4 Shop Open	
11 10-4 Shop Open	12	13 11-3 Shop Open	14 10-3 Shop Open 7:30 Mineral Section	15 10-3 Shop Open	16	17 10-4 Shop Open 10-Noon Youth Section 1:30 Beading Section	
18 10-4 Shop Open	19 7:30 Lapidary Section	20 11-3 Shop Open 7:30 Paleo Section	21 10-3 Shop Open	22 10-3 Shop Open	23	24 10-4 Shop Open	
25 10-4 Shop Open	26	27 11-3 Shop Open 7:30 General Meeting	28 10-3 Shop Open	29 10-3 Shop Open	30	31 10-4 Shop Open	

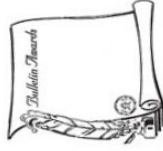
The BACKBENDER'S GAZETTE

The Newsletter of the
Houston Gem & Mineral Society

10805 Brooklet

Houston, Texas 77099

(281) 530-0942



SCFMS

1998 - 1st (Large)
2000 - 1st (Large)
2003 - 1st (Large)
2005 - 1st (Large)
2006-2016- 1st (Large)
2017—1st (Large)
2018—1st Large
2019—1st Large

AFMS



PUBLICATION

AFMS

1998- 2nd (Large)
2004- 3rd (Large)
2007- 1st (Large)
2010- 2nd (Large)
2012- 3rd (Large)
2013- 3rd (Large)
2014- 2nd (Large)
2017—3rd (Large)
2019—2nd (Large)

NON-PROFIT
ORGANIZATION
U.S. POSTAGE

PAID

BELLAIRE, TX 77401

PERMIT NO. 303

DATED MATERIAL—PLEASE DO NOT DELAY !