Pleasant Oaks Gem & Mineral Club of Dallas, TX
Chips and Chatter

Member: South Central Federation of Mineral Societies

Affiliated: American Federation of Mineralogical Societies

September 2019

Vol. 53, Issue 9

1st Place, 2019 SCFMS Mini-Bulletin
1st Place, 2017 AFMS Mini-Bulletin

Silver

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

Silver is one of the metals of antiquity – the seven metals known and used by humans in prehistoric times. The seven metals of antiquity are copper, gold, iron, lead, mercury, silver, and tin. Silver has the best thermal and electrical conductivity and best reflectivity of any metal. Diamond does have better thermal conductivity, but is not technically a metal. Depending upon the source, 86 to 97 elements of the periodic table are classified as metal.

Silver's name can be traced to Middle English *silver*, *selver*, and *selfer* that derive from Old English *siolfor* and is related to German *silber* and Old Norse *silf*. The chemical symbol Ag is derived from Latin *argentum* that means "shiny" or "white." Silver has a Mohs hardness of 2.5 and forms in the cubic crystalline system. Silver is found as a native element including crystals and wire like threads, but more often it is found alloyed with gold, copper, and other similar metals. It is also found in minerals (ores). However, most silver is produced as byproduct of refining gold, copper, lead, and zinc.

Like gold, silver is very soft and malleable. Also like gold, silver can be stretched into a wire just one atom in thickness, but after reaching that thickness it quickly breaks whereas gold can still be stretched. As mentioned above, silver has the best thermal and electrical conductivity of any metal. Silver also has the highest reflectivity of light above 450 nm (the short end of the blue spectrum and the long end of the violet spectrum). This accounts for the use of silver to coat mirrors, including the mirrors used for visible spectrum telescopes. For the record, aluminum has better reflectivity for wavelengths less than 450 nm.

Silver is not a strongly reactive metal, i.e., it does not want to form chemical compounds. Silver is slightly more reactive than gold, but neither will oxidize in air even when heated red hot. This is one of the reasons that silver and gold are easily soldered in forming jewelry. If the gold or silver is alloyed with copper (and they generally are), the copper will oxidize in air when heated red hot. To limit or eliminate the oxidation of the copper in the alloy, the pieces should be soldered at the lowest possible temperature, and the piece coated with a boric acid or other soldering flux, and then put in a pickling solution immediately after soldering the joint. The flux should limit copper oxidation, and the pickle will help remove the oxidation from the finished piece. Silver will readily react with sulfur to form the tarnish that plagues jewelry and silverware.

Silver has many uses. As rockhounds, we are aware that silver is used in forming jewelry. Silver is also used for monetary purposes. Through most of

recorded history, silver was the standard for the monetary systems – the "silver standard". In the 20th century, silver was replaced by gold as the basis in most nations – the "gold standard." There are, however, many coins still made from silver in circulation and vaults, along with many ingots of silver held for investment. Silver is also used in electronics. As silver has the best conductivity of any metal, you would expect silver to be used as the primary conductor of electricity. However, copper also has very good electrical conductivity and is considerably less expensive. Silver is used as the primary electrical conductor for Very High Frequency (VHF) and higher frequency applications. You would also expect silver to be used as a connector, but in detailed applications, gold is used for the connectors as it less prone to corrosion. Silver also has widespread uses in medicine. Silver sulfadiazine is used in wound dressings and as an antibiotic coating. Silver ions are also known to bond with bacteria genetic materials killing the bacteria. Silver and silver alloys are used to as a bone replacement for skull surgery, and are also frequently used for filling dental cavities. However, for dental applications, the silver is rapidly being replaced by ceramic materials. Silver has also had a large role in film photography. Many silver compounds, but particularly silver halides, are sensitive and change states when exposed to light. The process of using silver compounds in film has been improved from the earliest days of black and white photography to modern color photograph. Alas, silver is not required for digital photography, and whole generations have grown up without ever seeing a film camera.

As mentioned earlier, most silver is produced from the refining of copper, nickel, lead, and zinc. The major producers of silver are Peru, Bolivia, Mexico, China, Australia, Chile, Poland, and Serbia. Silver can be found in many locations in the United States including Texas. Silver is the state precious metal for Texas. If you want to look for silver in Texas, the best bets would be Hudspeth, Culberson, and Presidio counties.

References:

- NASA Science, Visible Light, science.nasa.gov
- Soldering 101, www.nancylthamilton.com
- Texas State Symbols, tsl.texas.gov/
- Wikipedia, en.wikipedia.org/wiki

Pictures:

- Native silver wire, picture by Don Shurtz of specimen on display at Perot Museum of Nature and Science
- Crystalline Silver, picture by Don Shurtz of specimen on display at Perot Museum of Nature and Science

If you like jigsaw puzzles, most of the pictures in the Chips and Chatter feature articles can be found online at Jigsaw Planet, https://www.jigsawplanet.com/. Search for the minerals by the mineral name or the general category "minerals."

Shows and Activities – Upcoming Show and Activity Dates

- Aug 31 – Sep 1, Dallas, TX, Dino-Fest at Perot Museum of Nature and Science
- Sep 26-28, Murphy, TX, David Dobson Amethys,Rock, Fossil sale, 1409 Oak Hill Ln, rock@rocktrading.org
- **Sep 28, Dallas, TX, Dallas G&MS Rock Swap, DGMS Shop on Plano Road just north of I-635**
- Oct 4-6, Albuquerque, NM, Jay Pen Expo, NM State Fairgrounds, http://abqfallsow.wixsitelcom/abq-fall-show
- **Oct 5-6, Fort Worth, TX, Rock Fest, Cowtown Gem, Mineral & Glass club, 3300 Bryant Irving Rd, steve.l.shearin@lmco.com**
- Oct 11-12, Mt. Ida, AR, 32nd Annual World Championship Quartz Digging Contest, Mt. Ida area Chamber of Commerce, Montgomery County Fairgrounds, www.mtidachamber.com
- Oct 11-13, New Orleans, LA, Louisiana G&MS,
- Oct 11-13, Dallas, TX, International Gem and Jewelry Show, Market Hall, https://www.intergem.com
- Oct 12-13, Temple, TX, Tri-City G&MS, Mayborn Civic and Commerce Center, http://drarhie.wixsite.com/tcgme
- Oct 18-20, Austin, TX, Austin G&MS, Palmer Events Center, www.agms-tx.org
- Oct 18-20, Houston, TX, International Gem and Jewelry Show, NRG Center, https://www.intergem.com
- Oct 26-27, Oklahoma City, OK, Oklahoma M&GS, State Fair Park, omgs-minerals.org
- Nov 8-10, Humble, TX, Houston G&MS, Humble Civic Center, https://hgms.org
- **Nov 23-24, Mesquite, TX, Dallas G&MS, Mesquite Rodeo Center Exhibition Hall, dallasgemandmineral.org**

Ref:

- July - August SCFMS News
- SCFMS Local Shows,
- Rock & Gem Show Dates, https://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=ALL

Bench Tips from Brad Smith

FINISHING PIERCED PATTERNS

After sawing patterns there's always a little cleanup to do, and the smaller cutouts can be a challenge. Needle files (7-8 inches) can get into the larger areas, and escapement files (4 inches) can get into some of the corners.

But I often find myself wanting even smaller files. I couldn't find them even at a watchmaker tools supply company, so I had to try something else. I ended up grinding down the tip of a 4" barrette file using a separating disk (or cutoff wheel) in the Dremel or Foredom.

Be sure to wear your safety glasses when using this tool. A flake of steel in your eye makes for a bad day.

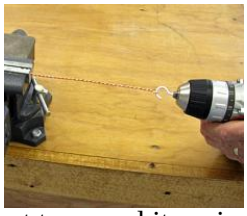
MAKING FILIGREE WIRE

Making wire for filigree is quite simple. Take a double strand of 24-26 gauge silver wire, twist it tightly, and then flatten it a bit. While the basics are straightforward, here's a few tips that will quickly make you an expert with filigree.

Filigree looks best when the wire has a very tight twist. The way I do this is to start with dead soft wire and twist it until it breaks. It always seems to break on one end or the other.

I like to use a screw gun, although a Foredom also works well. You'll need a small hook in the spindle, either a cup hook from the hardware store or a nail that has been bent into a hook shape.

Be sure to keep a little tension on the wires as you twist. Then to get a real tight twist, I anneal the wire and twist it a second time until it breaks.



The final step in prepping the filigree wire is to flatten it slightly with a planishing hammer or rolling mill. The amount of flattening is a personal preference. I like to reduce the diameter about 25%. The wire will be quite stiff at this point, so it's best to anneal it again before starting to make the filigree shapes

Credit: Brad Smith,
Be More Productive With Brad's "How To" Books
Amazon.com/author/bradfordsmith

Approval of Author required for commercial use

Calling for Donations! AFMS Endowment Fund 2019-2020

By Cheryl Neary, AFMS Endowment Fund Chair
From the June, 2019 AFMS Newsletter

Yep! It is that time of year when I start asking for donations to the AFMS Endowment Fund.

First, you may ask yourself, what is the AFMS Endowment Fund? If you know what it is, then you may be asking yourself, why donate a specimen?

My answer to the questions is as follows: The Endowment Fund was created to give the Federation a way to provide monies generated by interest in the fund to support special projects such as junior badges, judges training, digitizing of slide programs, just to name a few.

Your donation should be of an item with a minimum value of $75.00 and a weight limit of five (5) pounds. I request that if you are sending a donation of a specimen, you please notify me via email at ciervo.neary@gmail.com or via my cell phone 516.449.5341 and leave a message.

Unfortunately, the reason I request the heads-up is that one too many times a package has walked away from my front porch after being delivered, so I usually will have you send it to another secured address.

Over the years we have had over twenty plus specimens for the drawing. Why not break that record and aim for a number in the thirties?

Each person, business, or club that donates, especially early in the year (like now!) will get free marketing since each donation has the donor's name and federation. People appreciate the beautiful items that have been donated over the years – mineral specimens, jewelry, spheres, figurines, sculptures and equipment.

Our next drawing will be in 2020 at the Southeast Federation hosted joint event. I believe it may be in the later months of the year – so we have time to hit that thirty plus mark!

If you would like to help the fund and do not have an item to donate, then you can always buy tickets from your Federation representative. Tickets for the drawing are $5.00 per ticket or 5 for $20.00. The SCFMS Representative is Joyce Speed, 4680 Wisteria St., Dallas, TX 75211, email llispeed2@gmail.com

So far, I have received the first donation, while at this years' convention. Please remember to donate to such a worthy cause in our organization! Also, please remember these guide lines: Each object should weigh no more than 5 pounds; Each object or combined set of objects should have a minimum value of $75.00.

If you are considering donating, either contact your Federation Representative or email me at: ciervo.neary@gmail.com. Thanks!

Editor's note: The article from Cheryl Neary was modified to delete the list of all the Regional Federation representatives. Only the information for the SCFMS representative was retained.

The first item donated for this year's AFMS Endowment Fund raffle is an Amethyst Plate and Holder (see picture to right) donated by Doug True, the 2018 – 2019 AFMS President and has an estimated value of $375.00.

VISIT AN AREA CLUB

Arlington Gem & Mineral Club, meets the 1st Tuesday of each month at 7:30 pm, 1408 Gibbins, Arlington, TX
Cowtown Gem, Mineral, & Glass Club, meets the 2nd Tuesday at 7:00 pm, CERA 3300 Bryant Irvin Rd. Fort Worth
Dallas Bead Society, meets 1st Saturday of each month at 10:00 am at The Point at CC Young, 4847 W. Lawther Dr., Dallas, TX
Dallas Gem & Mineral Society meets the 3rd Tuesday of each month at 7 pm, American Legion, 10205 Plano Rd, Dallas (next to their shop)
Dallas Paleontological Society, meets 2nd Wed. of each month at 7:00 pm, Brookhaven College, Building H, 3939 Valley View Lane, 75244
Fort Worth Gem & Mineral Club, meets 4th Tuesday of each month at 7:30 pm, 3545 Bryan Avenue, Ft. Worth
Oak Cliff Gem & Min Soc., meets the 4th Tuesday of each month at 7:30 pm, Unitarian Universalist Church, 3839 W. Keist Blvd, Dallas,
Pleasant Oaks Gem & Mineral Club, meets the 1st Thur. of each month at 7:30 pm, Garland Women's Activities Bldg., 713 Austin, Garland
Wild West Bead Society, meets 3rd Tuesday of each month at 6:30, Wild Beads, 2833 Galleria Dr., Arlington, TX

PRESIDENT'S MESSAGE

Ling Shurtz, POGMC President

Remember, IGEM will be on Friday, Saturday, and Sunday, October 11 – 13 at Market Hall. Set up will be Wednesday, October 9th – plan for an early afternoon start. Our September 5th meeting will be at the Garland Activities Building starting at 7:30 PM. I will be leading a hands-on class/demonstration on making a stretchy bracelet. Warner will be bringing some beads, but it you have some favorite beads you can use those. Carolyn will bring the stretch nylon thread. See you!

CLUB OFFICERS FOR 2019

President:	Ling Shurtz
1st VP, Programs:	Carolyn Grady
2nd VP, Field Trips:	Open
Secretary:	Lee Elms
Treasurer	Del Grady
Editor:	Don Shurtz
E-mail:	don.shurtz@gmail.com, L.SHURTZ@gmail.com

MEETING MINTUES

The August 1st, 2019 club meeting was called to order at 7:45pm by Ling Shurtz.

The Pledge of Allegiance to the Flag was led by all of us.

Quorum: We have a quorum

Sunshine Report:

- Butch and Patti did not attend tonight because they spent the day in the hospital.
- Hat's mother died yesterday. Our thoughts and prayers go out to Hat and his family.

Visitors: We did not have any visitors at tonight's' meeting.

Minutes: The minutes of the June 2019 meeting as printed in the July 2019 Chips and Chatter were discussed. A motion was made to accept the minutes was made by Cheryl and seconded by Carol. They were voted on and passed.

Treasurer's Report: Del Grady gave the Treasurer's Report. A motion to accept the Treasurer's Report was made by Carol and seconded by Cheryl. The motion passed.
Old Business: There wasn't any old business to report on.

New Business: The IGEM Show is coming up soon.

We took our break and then came back for our presentation.

Warner had spent two weeks last month in Pakistan with some miners over there with whom he is good friends. He showed us the gems and minerals that he brought back. Some he will be cutting and polishing himself, and others and others will be cleaned up and polished into museum quality pieces. He had many lapis, rubies, jade, black quartz, kunzite, aquamarine, and morganite.

After Warner's presentation we held our raffle.

The meeting was adjourned at 9:00pm.

MEETING

Our September meeting will be on Thursday the 5th. The presentation will be a hands-on demonstration (class) on making a stretchy bracelet. Ling will lead the demonstration. Warner will be bringing some beads and Carolyn will bring the stretch nylon. Our subsequent meeting will be on Thursday, October 3rd. More details later.

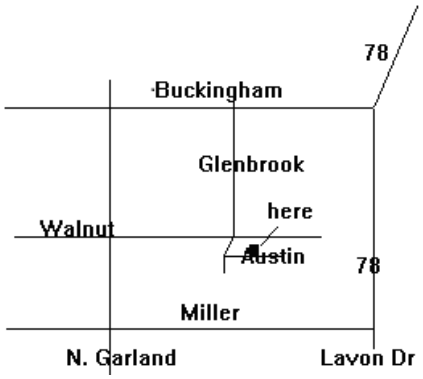
VISITORS ARE ALWAYS WELCOME

SHOW AND TELL

The birthstone for September is Sapphire. For Show and Tell, bring a Sapphire gem or crystal, or any other blue stone.

Meetings
First Thursday of each month, 7:30 PM
Garland Women's Activities Building
713 Austin St., Garland, TX
(Northeast corner of Austin & Glenbrook)

Membership
Single Adult: $16.50,
Junior: $5.00, Family: $27.50
(Plus badge fee for new members)



PURPOSE

The Pleasant Oaks Gem and Mineral Club of Dallas is organized for charitable and educational purposes to promote interest in the various earth sciences, particularly those hobbies dealing with the art of cutting and polishing gemstones, the science of gems, minerals and metal crafts, as well as their related fields. Pleasant Oaks Gem and Mineral Club of Dallas is a Section 501(c)(3) not-for-profit organization

CHIPS AND CHATTER
Pleasant Oaks Gem & Mineral Club
PO Box 831934
Richardson, TX 75083-1934

To:

VISITORS ARE ALWAYS WELCOME

Next Meeting: September 5. Ling will lead a Hands-On Demonstration/Class for creating a stretch bracelet

Features

Monthly Columns

Federation Information

Notices