

# GRITTY GREETINGS



## Waco Gem and Mineral Club

Volume 63, Issue 2, February, 2022

P.O. Box 8811, Waco, TX 76714-8811

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Table of contents.....	1
WGMC Contacts .....	2
Minutes from last meeting.....	2
February Birthstone.....	3
Brad's bench tips.....	5,6,7,8
Notes .....	8,9
Club Purpose.....	9



**From Life of Geology FaceBook page**

## Contacts

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**January 8, 2022** Waco Gem and Mineral Club Minutes     Harry Senn

**Scott Halvorson**, Vice President, called the meeting to order at 10:20 am.

**Minutes** from the previous meeting were approved.

**Treasurers Report:**

- The taxes for the building were paid.
- The Dues for 2021 were paid.
- The check for the building rent for December was cashed, but not the check for November. Jackie will look into this.

**Old Business:**

- All vendors are paid up for the 2022 Club Show
- we need to begin thinking in terms of advertising for the Show: signs, flyers, etc.
- we need donations for the silent auctions

**New Business:**

- still looking for a site for moving the Club
  - one suggestion, 18<sup>th</sup> and Franklin
- Bob Motion to adjourn. Roy second. Motion passed.

**Adjourn:** 10:45 am.

**Club Presentation:**

Bob showed DVD of Opal mining at Coober Pedy in Australia.  
Next the club saw examples of Precious Opal minerals and fossils.

Gritty Greetings: Waco Gem and Mineral Club Newsletter

## February birthstone: Amethyst



Amethyst is purple quartz. It is a beautiful blend of violet and red that can be found in every corner of the world. The name comes from the Ancient Greek, derived from the word methustos, which means “intoxicated.” Ancient wearers believed the gemstone could protect them from drunkenness.

Amethyst, as previously mentioned, is composed of quartz, which is the second most abundant material found in Earth’s crust. Amethyst gets its color from irradiation, iron impurities, and the presence of trace elements. Its hardness—a 7 on the Mohs scale—is the same as other quartz, which makes it a durable and lasting option for jewelry.

While amethyst is most commonly recognized to be a purple color, the gemstone can range from a light pinkish violet to a deep purple that can read more blue or red, depending on the light. Sometimes the same stone can have layers or color variants, so the way the gemstone is cut is important to the way the color shows in a finished piece.

Amethyst often occurs in geodes or in the cavities of granitic rocks. It can be found all over the world, including the United States, Canada, Brazil, and Zambia.

The amethyst is not only the February birthstone, it is also used to celebrate the sixth and 17th years of marriage.

American Gem Society

- See more at: <http://www.americangemsociety.org/>

62nd Annual  
Waco Gem and  
Mineral Club Show 2022

Waco Convention Center  
April 30th and May 1st  
Saturday 10-5 Sunday 10-5



## Brad's Bench Tips



### MAGNETIC TOOL BAR

An easy way to keep all your files organized at the bench is to use a magnetic tool strip. They're not expensive and help keep a lot of small tools from cluttering the bench top. I got a couple of them from Harbor Freight for about \$5 each.

See <http://www.harborfreight.com> and search on-"magnetic-holder"

My only regret was putting some of my small drills on the magnets. The drills got a little magnetized and now stick together when I carry them in a bottle in my tool box.

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## SILVER DISCOLORATION

Working with jewelry involves an ever increasing number of skills. Chemistry is one of them that comes into play when dealing with a discoloration on the metal caused by a chemical reaction between it and the environment.

In the case of Sterling silver, there are three discolorations we typically encounter: a tarnish, a firescale, and a firestain. Each is different in its cause, in its cure, and in its prevention. All three have to do with components of the Sterling alloy (92.5% silver and 7.5% copper) and how they react with oxygen and the heat of soldering or with pollutants in the air over the long term. Firescale and firestain also occur in 14k or 18k gold because of the copper content.

Tarnish is a grayish coating that builds up slowly on the surface as a result of a reaction of the silver with sulfur-based compounds in the air. Typically these are pollutants from the burning of petroleum fuels, but they can come from other sources as well. I once tarnished all the silver in my display case by putting a pretty specimen of iron pyrite in with the jewelry. Turns out pyrite has sulfur in it!

Sulfur from air pollution or any other source combines with the silver to form a grayish silver sulfide film on the surface. Preventing tarnish involves keeping sulfur away from the metal. Plastic bags will help, and anti-tarnish strips are available from jewelry supply companies to pack near your items. Tarnish is easily removed by hand polishing with a jeweler's cloth or with one of the products sold for cleaning the good silverware for holiday dinner.

Another way is to remove it chemically. Put a piece of aluminum in the bottom of a dish large enough to contain your piece. Heat enough water to cover the silver. Mix in 2 tablespoons of sodium carbonate per cup of water and pour into the dish. Be

sure the silver touches the aluminum. Sodium carbonate is the main ingredient in washing soda. Read the labels in grocery and hardware stores.

The second type of tarnish is called firescale. It is the dark gray to charcoal colored film that forms on Sterling or other copper alloys like brass or bronze when we heat it with a torch. The copper in the alloy reacts with oxygen in the air to form a dark cupric oxide coating on the surface. Luckily, the oxide is easily removed by dissolving it in a mild acid - generally called a pickle. It's important that we not let firescale form on a solder joint because it will block the flow solder over the joint.

There are two ways to prevent firescale. Most common is to use a flux, a borax-based solution applied to the metal before soldering. When melted, borax forms a thin glassy layer that keeps oxygen away from the metal. A second way is to do your soldering on a charcoal block. Together with the flame, charcoal greatly reduces the amount of oxygen in the area being soldered. In either case, oxygen is prevented from reaching the metal, so no cupric oxide firescale is formed.

A second oxide can also be formed when soldering copper or a high copper content alloy like bronze or brass. It's called cuprous oxide and is reddish in color. That's why a black looking piece you put in the pickle sometimes comes out red. Problem is that while the black cupric oxide is dissolved by a pickle, the red cuprous oxide is not. The discoloration can be sanded or polished off, but an easier way is to use a "super pickle". This is a mixture of fresh pickle with a healthy shot of hydrogen peroxide from the local store.

I've saved the worst form of discoloration, firestain, for last. Think of firescale (above) as like getting dirt on your shirt that you have to wash off. Firestain is like getting ink on it. The discoloration is not just on the surface, it seeps down and stains the material. Firestain happens when we heat a piece of silver too hot, too long, and/or too many times.

Firestain occurs when the oxides start to build up below the surface of the metal. You generally don't notice it until after polishing. It appears as a darker area of the surface and is easy to spot when viewed under light bounced off a piece of white paper. Because firestain is below the surface, there's no easy bench tip solution. Depletion gilding may work for some pieces. Otherwise, removing it calls for sandpaper and aggressive polishing.

A much better approach for a piece that will require a large number of solderings is to protect the metal from developing firestain by applying liberal amounts of a firecoat. Regular soldering flux will provide some protection but is not as effective as preparations made specifically for the task. Jewelry supply companies offer several commercial solutions, but my favorite is the Prips mixture. I use it every time I intend to do more than two solderings on a piece.

## Smart Solutions for Your Jewelry Making Problems



### Notes

The editor requests news items from any member to be included in the Gritty Greetings.

Deadline for submissions is the 20<sup>th</sup> day of the month.

### Name Tags:

It is great that we feed the pig at our meetings because we don't have or have lost or forgotten our nametags to drop a quartering the pig. The money from the pig goes toward our Scholarship program, and we really do appreciate every 2 bits, 4 bits, 6 bits or more. However, if you need a nametag you can purchase them at the businesses below!



Waco Gem & Mineral Club nametags are available at **Print Mart**, 202 Deb (behind AutoNation Chevrolet). Cost with a pin back is \$8.00 (with tax \$8.66), and with a magnet back is \$11.00 (\$11.91). or at Award Specialties at 431 Lake Air Dr.

**Club Dues:**

Annual Waco Gem and Mineral Club dues are \$12.00 for an individual membership or \$20.00 for a family membership. Please check with Jackie if you aren't sure whether you've paid your Dues!

**Shop Fees:**

Lapidary Workshop fee is \$2.00 per hour. Slab Saw fee is an additional \$2.00 per hour. Class fees are always dependent upon class and instructor.

The Waco Gem and Mineral Club is a member of the South-Central Federation of Mineral Societies; and the American Federation of Mineralogical Societies. Meetings are held on the first Saturday of each month (except July and September) at 10:00 a.m. at the Waco Gem and Mineral Club Clubhouse, 187 South McLennan Drive in Elm Mott, Texas. The lapidary workshop is in the clubhouse.

Our website is [www.wacogemandmineral.org](http://www.wacogemandmineral.org)

Facebook: <https://www.facebook.com/WacoGemAndMineralClub>

**Club Purpose**

- to bring about a close association of those persons interested in earth science and lapidary arts
- to increase and disseminate knowledge about rocks, minerals, fossils, Indian artifacts and other geological materials
- to encourage lapidary art and the collection and exhibition of rocks, minerals, fossils and artifacts
- to conduct field trips, meetings, lectures, displays and an annual show for the edification of the public
- to cooperate with educational and scientific institutions and other groups in increasing knowledge and popular interest.

