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## Aquamarine

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

The birthstones for March are Aquamarine and Bloodstone. This article will concentrate on Aquamarine. The beryl family of minerals consists of Emerald (green), Morganite (pink), Red Beryl, Heliodor – also called Golden Beryl (yellow), Goshenite (clear), Maxixe (deep blue), and Aquamarine (blue). All members of the beryl family have the same chemical composition, beryllium aluminum cyclosilicate. The chemical formula for all members of the family is  $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$ . They all have Mohs hardness of 7.5 to 8.0 and a white streak.

Aquamarine derives its name from the Latin *aqua marina* meaning “sea-water”. The color can vary from blue to cyan (greenish-blue). As with all members of the beryl family, the color is derived from trace elements caught up in the crystalline matrix. The blue color comes from the presence of iron ions with a charge of plus two ( $\text{Fe}^{2+}$ ). Unlike some of the other members of the beryl family, Aquamarine is often found as clear stones without inclusions. This

makes it a valuable stone for jewelry. It also can be found as very large crystals. The largest gem-quality Aquamarine ever found weighs a whopping 243 lbs. It was 19 inches long and 16 inches in diameter. Known as the Dom Pedro Aquamarine, it was found in



Minas Gerais, Brazil, and is now in the Smithsonian Institution’s National Museum of Natural History.

Aquamarines are often heat-treated to remove some of the greenish colors. Heat treating may also change a light blue stone into a darker colored stone, thus making it more attractive in the jewelry market. Most Aquamarine destined for the jewelry market will be heat treated before it is cut. Aquamarine has been synthetically lab-grown, but the good news is that the cost to produce lab-grown synthetic Aquamarine makes it prohibitive to compete with the abundant supply of the less costly natural Aquamarine. That having been said, you still need to be aware of simulated Aquamarines. Blue topaz and zircon have the same physical appearance and color as Aquamarine and are intentionally mislabeled as the more expensive Aquamarine. Another means of deceiving the customer is with false names. The name Brazilian Aquamarine and Nerchinsk Aquamarine are often false

names for blue Topaz. Siam Aquamarine is a false name for a heat-treated blue Zircon, and Mass Aqua is a false name for faceted blue glass dyed to resemble Aquamarine. If you are going to purchase Aquamarine for your jewelry work, deal with a known, reputable dealer.

There are only a couple of profitable commercial uses for Aquamarine. The primary use is for jewelry and as mineral specimens. It can, however, be used as an ore for Beryllium, but it is difficult to extract the metal from the various forms of Beryl. The preferred ore for Beryllium is Bertrandite. The world's largest deposit of Bertrandite is Spor Mountain in Utah; it is not surprising that Utah is the world's largest producer of Beryllium.

Brazil is the leading source of gem-quality Aquamarine. Other key locations for Aquamarine are Afghanistan, Pakistan, numerous locations in Africa, and Russia. Aquamarine is also found in many locations in the US including in the Appalachian Mountains from Alabama to Maine, the Rocky Mountains from Idaho to New Mexico, and Southern California. In Texas, Aquamarine has been found in the Cactus Jack pegmatite northeast of Burnet.



#### References:

- Aquamarine, mindat.org, <https://www.mindat.org/>
- Beryl, Wikipedia, <https://en.wikipedia.org/>
- The Gemstone Aquamarine, Minerals.net, <https://www.minerals.net/>

#### Pictures

- Mineral Specimen: Photograph by Don Shurtz of specimen on display at the Perot Museum of Nature and Science
- Aquamarine and Diamond Brooch- Pendant: Public Domain, from the U.S. National Archives and Records Administration, Wikimedia Commons, <https://commons.wikimedia.org/wiki/>

## Bench Tips from Brad Smith

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### OCHRE APPLICATOR

Yellow ochre is used when you want to be sure the solder won't flow on an area of your piece while you're soldering another area. The only problem with ochre is coming up with a good way to store and apply it. I use recycled nail polish bottles. They seal well and have a built-in brush applicator. Just clean them out with a little acetone or nail polish remover, and they're ready to go.



### TEMPLATES

Whenever I have to make more than 2-3 exact copies of a sheet metal component, I think of making a template. Templates let

me easily draw the shape of an item to cut out. Art stores or online sources like [cooltools.us/](http://cooltools.us/) and [kingsleynorth.com/](http://kingsleynorth.com/) sell templates for common shapes like circles, ovals, hearts, etc., but for nonstandard shapes, I make my own out of a scrap of sheet plastic or sheet metal. My preference is brass. I carefully lay out the shape using a steel ruler, a set of dividers, a scribe, and a fine center punch. One example is the brass template in the pic below that lets me quickly trace the design of Ginkgo leaf earrings onto silver sheet. Another is the nickel template which makes it easy to drill a pattern of holes for pin inlay into wooden handles. "



### Work Smarter & Be More Productive With Brad's "How-To" Jewelry Books



[Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)

## From the Desk of the President

Judy Beck, AFMS President 2020-2021  
From the February AFMS Newsletter

Greetings Fellow Rockhounds and a VERY Happy New Year! 2021, we're going to turn this COVID thing around, right? I'm sure hoping so; I want to hit the road and get to meeting up with you! So let's start this off with news about our convention. As many of you heard from the Central Office, the convention was canceled in Sandy, Utah because their venue will not hold any activities until sometime later in the year. We're so sad that we won't be going out to Utah and hope to see Sandy on the convention radar in the next couple of years! Rocky Mountain stepped right up, though, and has set June 17- 20 for the new dates in Big Piney, WY. This is the RMFMS's second year there and everyone who went last year raved about what an awesome time they had! Thanks to **Jim Gray** and his crew for stepping up and volunteering to host us this year! We can't wait to go West this summer!



So the first few months of my tenure as President are past, and honestly, the job has been busier than I thought it would be. Things started out when I received a lovely card from **Muriel Frink** in Colorado; -she remembered me from a convention we attended together in Roswell, NM in 2001! That is sooo awesome! I have thoroughly enjoyed visiting with committee chairs over the past few weeks. So thankful for the people that have answered the call to volunteer for a committee-**Margaret Kolaczyk, Walt Beneze, Leslie Wayment**-I'm so appreciative of you!! And I'm so thankful for the people I consider giants in this federation that serve and have served-**Shirley Leeson, Emerson Tucker, Ellery Borow, and Marion Roberts**! There are so many more people that I have been blessed to talk with and receive great advice from including our past presidents-**Doug True, Sandy Fuller, Richard Jaeger, Dr. Bob Carlson, and Dave Wayment**. It is so nice to know that you all are out there, and whenever I have a question, you will point me in the right direction! And I would be remiss if I didn't give a BIG shoutout to **Cheryl Neary** in the Central Office and **Sue Webb** our awe-some newsletter editor!! I couldn't ask for a better right-hand woman than Cheryl to answer my questions and collect information that I'm needing! So many have contributed to the American Federation and hobby over the years, and I was really sad to hear of the passing of one of the giants, **Dee Holland**. Dee was always larger than life to me, and I always appreciated his knowledge and wisdom! We also lost a wonderful rockhound friend who served as the North Dakota State Director for many, many years, **Russ Olinger**. Russ didn't know a stranger and enjoyed sharing the excitement of his hobby with everyone he met!

Looking to activities in the New Year--the special committees set up by our Past-President, **Dave Wayment**, are perking right along! We hope that your clubs were able to take the survey about the website that was sent out as we seek to better serve you! There are some great minds working on our website offerings and our junior programs. Thanks for ALL that you are doing and your faithfulness in serving the American Federation!

Wishing you all a healthy 2021 and many great finds in the field! I'm honored to serve you

### 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

## Safety Matters – Safety in the New Year

Ellery Barow, SCFMS Safety Chair  
From the February AFMS Newsletter



Some believe COVID-19 is hokum. Some believe it is quite genuine. That will not be discussed here....  
But

But what if.... What if mask-wearing, social distancing, and observing safety guidelines saves a life. What if minding state guidelines protects a club? What if protocols for COVID-19 keep from bringing it home or from taking it out of your home if it's already there? What if procedures for safety really do curb spread to one's family, friends, or community?

Does mask-wearing violate rights? Does respectful distancing dishonor relationships? Does handwashing hurt the community? Only you can decide for yourself.... But it is not only just about yourself, it is for all those around you.

What if... What if a price for COVID-19 is too high? What is the price? There are many such questions. The job of safety is to be mindful of what-ifs and prepare for them.

What else can a mask do? One can go a few days without shaving and no one in public will care. One could wear a mask that looks like a majestic orangutan's jaw and lips. One can wear a mask to make a statement of art - there are a great many artful mask designs out there. One can wear a mask to be brave in facing a pandemic and take charge of one's care. One can wear a mask because the CDC, WHO, NIH, NIAD say it is a good idea... and they care about saving people. One might wear a mask because a friend got sick... or worse. One can wear a mask to make a stand because the numbers are not going down. One can wear a mask till vaccines start taking effect. One can wear a mask to help keep the flu numbers down. One can show one's bravery by wearing a mask. Masks can do a great deal. How about making them work for you? How about making them work for those around you?

I'm not here to judge but to simply help people stay safe. It seems the right thing to do.

The alphabet soup:

- WHO - World Health Organization
- CDC - Center for Disease Control
- NIH - National Institute of Health
- NIAD - National Institute of Allergies and Infectious Diseases

The disclaimer - understand that this article does not profess to offer medical advice but merely compiles data from several sources about masks and the COVID-19 virus. For current information please check with trusted sources.

## Shows and Activities – Upcoming Show and Activity Dates

**Please note that many shows are being canceled in response to health concerns associated with COVID-19**  
**Check with the show contact to verify the show status**

### March 2021

- MAR 26-27, Ada, OK, Ada GM&FC, Ponotoc Agri-Plex, [melody.ulanowski@gmail.com](mailto:melody.ulanowski@gmail.com)

### April 2021

- APR 7-18, Tucson, AZ, JOGS International Exhibits, Tucson Expo Center, [www.jogsshow.com](http://www.jogsshow.com)
- APR 10-11, Abilene, TX, Central Texas G&MS, Taylor County Expo Center, [ctgmw50@gmail.com](mailto:ctgmw50@gmail.com)

Ref:

- September - October 2020 SCFMS Newsletter
- Rock & Gem Show Dates, <https://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=ALL>

## PRESIDENT'S MESSAGE

Ling Shurtz, POGMC President

Welcome to our new members, Amy and Eden Vulk. New members are appreciated, and it is nice to have a Junior Member (Eden) again. IGEM will be March 26 – 28, 2021. Plan for setup on Wednesday, March 24, 2021, starting early afternoon.

## CLUB OFFICERS FOR 2021

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

## MEETING MINUTES

February 4, 2021

POGMC President Ling Shurtz called the club meeting to order at 7:45 pm.

We recited the Pledge of Allegiance to the Flag

**Quorum:** We have a quorum

**Sunshine Report:** Everyone seems healthy!

**Visitors:** Amy and Eden Vulk introduced themselves.

**Minutes:** We reviewed the minutes of the January 2021 meetings as printed in the February Chips and Chatter. Hatt made a motion to accept the minutes. Don seconded the motion. The motion passed.

**Treasurer's Report:** The Treasurer's report was deferred

**Old Business:** The next IGEM will be March 26 – 28 at Market Hall. Plan for set-up on Wednesday, March 24.

### New Business:

- The Executive Board has selected Don Shurtz to fill the vacant Treasurer's position
- Don made a motion to accept Amy and Eden Vulk as new members. Cheryl seconded the motion. The motion passed unanimously.
- **Shows:**
  - FEB 1-15, Tucson, AZ, numerous shows and dates, see <https://jogsshow.com/tucson-gem-show-schedule/>. Note, Tucson G&MS show scheduled for Feb 11 – 14 has been canceled

**Presentation:** The presentation was the Cave of Crystals – Exquisite Caves from the Great Courses series.

**Raffle:** We held the Raffle

Ling adjourned the meeting at 845 pm.

## Presentation Review: Cave of Crystals – Exquisite Caves

Don Shurtz, POGMC member

The presentation started with a description of how to form crystals. Sugar, salt, or borax can be dissolved in warm water. The warm water is then poured into a container which has strings dangling down into the cup. After a few days, you will find crystals growing on the strings. If you used sugar, you would end up with "rock candy".

The Cave of Crystals was discovered in 2000 in the Naica Cave system, Chihuahua, Mexico. In 1910, the miners in the Naica Cave system discovered a room at a depth of 400 feet filled with selenite crystals reaching 3 feet in length and resembling long, thin blades. The room became known as the Cave of Swords. In 2000 another small room was found at a depth of 980 feet. The room was about 30 by 100 feet and was filled with water at a temperature of 136 degrees Fahrenheit. As there were working mines below the new room, it was necessary to drain the room to prevent a rupture which could spill the hot water into the working mines. After draining, the room was found to also be filled with selenite crystals, but they were massive crystals reaching 35 feet in length. This became known as the Cave of Crystals. Most experts believe the cave was formed by the hot water dissolving the selenite to form the room. As the solution became saturated with minerals, they eventually started depositing out as anhydrate crystals that changed to selenite crystals as the water temperature dropped. After draining, the selenite crystals began to deteriorate. To preserve the crystals, the room is now maintained at 112 degrees F and 100% humidity.

## MEETING

The next meeting will be on March 4, 2021, starting at 7:30 PM at the Garland Activities Building.

## VISITORS ARE ALWAYS WELCOME

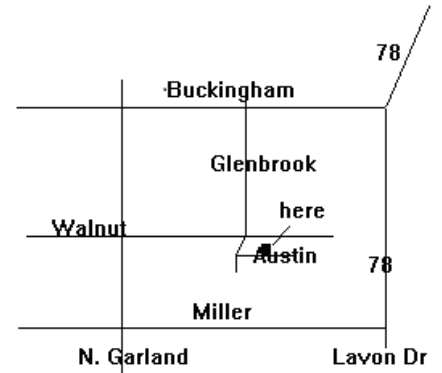
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**PLEASANT OAKS GEM and MINERAL CLUB of Dallas**



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**

**The March Meeting will start at 7:20 PM on Thursday, March 4, 2021.  
 We will meet at the Garland Activities Building, 713 Austin Rd, Garland**

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