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BERYL

Don Shurtz, Pleasant Oaks Gem and Mineral Club

Like Quartz, Garnet, Topaz, and many other minerals, Beryl is a family of gemstones of differing colors. The major colors of Beryl are Clear (no color), Green, Blue, Yellow, Pink, and Red. The most commonly known varieties of Beryl are Emeralds (green) and Aquamarines (light blue). Both are recognized as Birthstones, Aquamarine for March and Emerald for May. Other major varieties of Beryl include Morganite (pink), Heliodor and Golden Beryl (yellow), Red Beryl (red), Maxixe (mah-she-she) (dark blue), and Goshenite (clear). All Beryls are composed of Beryllium Aluminum Silicate. Their chemical formula is $\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$. Beryl is slightly harder than quartz, with a Mohs hardness of 7.5-8.0. This is hard enough to use in jewelry without many constraints.

Clear Beryl is known as Goshenite. It derives its name from Goshen, Massachusetts, where it was mined. It was identified as a variety of Beryl in 1844 by Charles Shepard, an early American mineralogist. However, goshenite was used centuries earlier in the fabrication of corrective lenses for eyeglasses and for hand-held magnifiers. It was also used in some of the first telescopes. It was favored for its optical clarity and was used until clear, less expensive optical glass had been developed. Today, some jewelry is fabricated from Goshenite. It has also been found that its color can be changed by irradiation. It can imitate other Beryl colors.



The rarest variety of Beryl is Red Beryl. It is found only in three locations: the Thomas Mountain Range in Utah, where it was originally discovered; the Wah Wah Mountains in Utah, where most of the Red Beryl is mined; and Sierra County, New Mexico, where very few of the finds are gem-quality. It was originally named Bixbite, but the name was easily confused with an earlier Mineral named Bixbyite. Both were named after the mineralogist Manyard Bixby. Red Beryl derives its color from Manganese ions in the plus 3 valence state (Mn^{3+}).



The May Birthstone is Emerald, the green variety of the Beryl Family. The green color comes from the trace element Chromium, with a Chromium ion (Cr^{3+}) replacing an Aluminium ion in the crystal lattice. About 2% of the Chromium Ions are replaced to achieve the deep green color. Vanadium ions (V^{3+}) will also cause Beryl to show as green. For many years, Beryl colored by Vanadium was called Green Beryl, but is now considered to be an Emerald. Emeralds were mined by the ancient Egyptians; the mines were located in Austria and Pakistan. In modern times, the majority of Emeralds are mined in Colombia, but they are also found in Brazil, Zambia, Zimbabwe, Madagascar,

Pakistan, Afghanistan, and India. Some emeralds have also been mined in Hiddenite, North Carolina. Most Emeralds are heavily included. Because of its rarity, Emerald can also be lab-grown. If you are looking at an Emerald that has virtually no inclusions, it is likely a lab-grown Emerald. A rare type of Emerald found only in Colombia is the Trapiche Emerald. The Trapiche Emerald has carbon impurities (inclusions) in the stone. It grows radially from the center, forming alternating black and green areas that look like a wagon wheel.

The March Birthstone is Aquamarine, the pale blue variety of Beryl. It derives its color from Iron ions in the plus two valence state (Fe^{2+}). It can be naturally or artificially irradiated to cause some Fe^{2+} ions to convert to Fe^{3+} ions. This can cause the pale blue stone to become a deep blue variety of Beryl known as Maxixe. Aquamarine is stable, but Maxixe can lose its deep blue color if exposed to strong sunlight or heat. Naturally occurring Maxixe has only been found in Brazil. Brazil is also a major producer of Aquamarine. Aquamarine is found virtually everywhere Beryl is found, including the same places where Emerald is found. In the United States, Aquamarine has been found in North Carolina, Colorado, Wyoming, and Idaho.



Yellow Beryl also comes in two basic color groups. The coloring agent for Yellow Beryl is Iron ions in the plus three valence state (Fe^{3+}). When the concentration of (Fe^{3+}) ions is higher, the Beryl takes on a golden or pure yellow tint. The higher the concentration, the deeper the color. Those that are golden or pure yellow are referred to as Golden Beryl. When the concentration of (Fe^{3+}) ions is lower, the stone takes on a greenish-yellow coloration and is generally referred to as Heliodor. Many texts refer to the golden and pure yellow as Beryl, variety Golden Beryl, and the greenish-yellow as Beryl, variety Heliodor. However, the terms Golden Beryl and Heliodor are often used interchangeably, and I have never found a definitive reference that they are separate varieties. Brazil produces most of the Golden

Beryl and Heliodor specimens. However, it can also be found in Namibia, Madagascar, Ukraine, and Russia. Minor deposits of yellow Beryl have been located in Nigeria, Zimbabwe, Sri Lanka, and in the United States (Connecticut, Maine, New Hampshire, New York, North Carolina, and Colorado).

The final variety of Beryl is the pink-to-rose variety named Morganite. Morganite was named by George Kunz, a vice president of Tiffany & Co., after J.P. Morgan, the American banker and a major mineral collector. Like Red Beryl, Morganite gets its color from Manganese ions. In Morganite, the ions are in the plus 2 valence state (Mn^{2+}). Morganite is one of the alternatives to Diamond for engagement rings. For the same price, you can get a much larger Morganite than a Diamond, or for the same size, a Morganite can be less expensive. What could be more appropriate than a pink engagement ring? The primary sources for Morganite are Brazil and Madagascar. Lesser finds have been identified in Mozambique, Namibia, Afghanistan, Pakistan, and in California and Maine, United States.



References:

1. Wikipedia, <https://en.wikipedia.org/wiki/>, various topics related to Beryl
2. Google Search, AI Mode, <https://www.google.com/search>, various questions and topics related to Beryl

Pictures: All pictures from Wikimedia Commons, <https://commons.wikimedia.org/wiki/>,

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FEDERATION NEWS

Safety Matters: "I" Safety?

Ellery Borow, AFMS Safety Chair, from the December 2025 AFMS Newsletter



Yes, "I" safety. There are a great many published articles concerning the wisdom of using goggles to protect one's eyes from the hazards in our hobby. So, this article will focus on the "I". The "I" as in you, me, us, and we.

Here is a short story to illustrate the point: I have a friend who pilots a helicopter. She has an excellent, first-rate mechanic tending to her flying machine. She feels comfortable with her mechanic's service and completely trusts his work in keeping her machine in tip-top condition. That said, prior to each and every flight, she "pre-flights" the helicopter.

Prior to each of her helicopter flights, she examines the machine and checks to look at dozens and dozens of conditions including: weeping lubrication here, a grease spot that shouldn't be there, a control surface that does not look right, "play" in moving parts that should be just right - not too loose, not too tight, and so on. In other words, while she trusts her helicopter's mechanic, she double-checks for herself before she flies.

There are comparable situations to "pre-flighting" an aircraft in everyday life. Take food safety, for example. Before consuming any food, whether fresh or refrigerated, we typically take note of our food. Even though most of our food is checked multiple times before we get it, we also check it before eating it. Milk, for example, before consumption, does it smell fresh? Is it lumpy as we pour it? Does its color look right? What might be its expiration date? Milk, as in all our foods, must pass our checks before eating it.

Double-checking should also be performed in our rock and mineral hobby. If your club is fortunate enough to have its own workshop, there is no doubt a person or committee of dedicated people ensuring the

safety of everything in the workshop. There is a wisdom in us to double-check things for the sake of our personal safety. Might an equipment guard have come loose the last time the equipment was used? Might there be a new spill on the floor? Might an electric cord have shifted into a dangerous position? Yes, we trust the safety efforts of others, but we also want to put the "I" in safety as being ultimately responsible for our own safety... and in helping with the safety of others.

Some examples:

- When setting up for a show, are the folding table legs in the locked position?
- Did we check the truck's motor oil level before going on an extended collecting trip?
- Are the equipment guards secure on our lapidary machines?
- Are soldering fumes collected and safely ventilated as we work?
- Is there sufficient task lighting so we are not squinting and causing eye strain?
- Are we sure of the rocks a bit over where we are collecting

These and numerous other situations remind us of the "I" in safety. We are the person ultimately responsible for our and our family's safety.

That helicopter pilot - well, it's her hands on the collective and cyclic controls, it's her shoes on the pedals. It's her decision whether she feels safe in flying that day. Please make sure you feel safe in all you do in this great and wonderful hobby of ours. Be as safe as you can and enjoy it to the max. Your safety matters, and so does your enjoyment.

Shows and Activities – Upcoming Show and Activity Dates

Check with show contact to verify show status

March 7-8, Robstown, TX, Gulf Coast Gem and Mineral Society, RMB Regional Fairgrounds

March 7-8, Big Spring, TX, Big Spring Prospectors Club, Howard Count Fair Barn, <https://www.facebook.com/bigspringprospectorsclub/>,

March 14-15, Abilene, TX, Central TexasG&MS, (editor's guess): Taylor County Expos Center, <https://www.facebook.com/p/Central-Texas-Gem-and-Mineral-Society-100082479451581/>

April 11-12, San Antonio, TX, Southwest Gem and Mineral Society, Morris Center at Joe Freeman Coliseum, <https://www.facebook.com/p/SouthWest-Gem-and-Mineral-Society-100047676924297/>



POGMC Our March Meeting March 2, 2026 Potluck Dinner and Fun

Why would a Gem and Mineral Club celebrate St. Patrick's Day?
pick none, one, or many

1. Because we are all Irish?
2. Because we are Irish at Heart?
3. Because it means spring is near?
4. Because we like Corned Beef and Cabbage?
5. Because we can

WHO

Meet and Greet at 6:00
Dinner Starts Soon After
3722 Cavalier Drive
Garland, TX

Who's Bringing What

Ling & Don Corned Beef and Cabbage
Julie & Warner: Desert
Cheryl: Potato Dish
Carolyn: Bread & Butter
Choice: Green Beans
Johnny: Drinks
Everyone Else – Bring anything

WHAT



WHEN



WHY

OFFICERS FOR 2025 – 2026

President: Joe Vulk
1st VP, Programs: Amy Vulk
2nd VP, Field Trips: Julie Wilson
Secretary: Johnny Rhodes
Treasurer: Ling Shurtz
Editor: Don Shurtz

Contact us by email: don.shurtz@gmail.com

Minutes of the February 2, 2026 Meeting

Call to Order: Joe Vulk, POGMC president, called the meeting to order at 6:55 pm.

Pledge of Allegiance: Joe led the Pledge of Allegiance

Quorum:

Visitors: Julian Gamino (5 years old), accompanied by his Mother and Father (Edna and Jauer). (Editor's note: Please forgive me if I have incorrect spelling.)

Minutes: We reviewed the January 2026 Minutes as published in the February 2026 Chips and Chatter. Julie made a motion to accept the minutes as published. Brenda seconded the motion. The motion passed.

Treasurer's Report: No report - Ling was unable to attend the meeting

Old Business:

- Please pay your 2026 dues if you have not yet done so.
- Julie reported that POGMC would not participate in the April IGEM show.
- Rock Swaps at the DGMS parking lot on the last Saturday of the month should resume in April.

New Business:

New Business

- Joe reported that we can continue meeting at the Knights of Columbus Hall in 2026. Rental of the room remains the same.
- The March meeting will be our annual St. Patrick's Day potluck social

Presentation: Amy led an activity of cutting snowflakes from paper. Snowflakes are a six-sided mineral form of water.

Raffle: We had the raffle

Adjourn: The meeting at 7:50 pm

NEXT MEETING

Our next meeting will be Monday, March 2, 2026. Our meeting will start at 6:00 pm and end by 8:00 pm. We will meet at the Knights of Columbus Hall, 3722 Cavalier Drive, Garland, TX. This meeting will be our annual St. Patrick's Day potluck dinner. Ling will bring Corned Beef and Cabbage. Julie will bring a Desert. Cheryl will bring a Potato dish. Carol will bring Bread and Butter. Johny will bring Drinks. Choice will bring Green Beans. Anyone not listed should bring a Dish to share, preferably one with an Irish connection.

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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 the 2nd Wed. of each month at 7:00 pm, Brookhaven College, Building H, 3939 Valley View Lane,
[Fort Worth Gem & Mineral Club](#), meets the 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 Monday of each month at 7:00 pm, Knights of Columbus Hall, 3722 Cavalier Dr., Garland, TX
[Wild West Bead Society](#), meets 3rd Tuesday of each month at 6:30 pm, Wild Beads, 1124 S. Bowen Road, Arlington, TX

PLEASANT OAKS GEM and MINERAL CLUB of DALLAS



Meetings

First Thursday of each month. Please check website, www.pogmc.org, for updates.

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 that involve the art of cutting and polishing gemstones, the science of gems, minerals, and metal crafts, and related fields. Pleasant Oaks Gem and Mineral Club of Dallas is a not-for-profit organization.

CHIPS AND CHATTER

Pleasant Oaks Gem & Mineral Club
c/o 4004 Dublin Rd.
Allen, TX 75002-6526

To

VISITORS ARE ALWAYS WELCOME

Our next meeting: Monday, March 2, 2026, at 6:00 pm. This will be our annual St. Patrick's Day Celebration potluck dinner.

We will meet at the Knights of Columbus, Council 6402 Hall, 3722 Cavalier Drive, Garland, TX 75042

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