



Huge Diamond found in Botswana

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas

I trust that everyone has heard of the Cullinan diamond found in January 1905. It was found in South Africa. It was and remains the largest diamond ever found. It weighed an astounding 3106 carats. The Cullinan was eventually cut into 9 major stones and 96 minor stones. The largest of the 9 major stones was the Cullinan I, also known as the Great Star of Africa, which weighed in at 530.2 carats.

Recently (in August 2024) a huge diamond was found in Botswana. The diamond's weight is 2492 carats. It was found in the Karowe Diamond Mine which is owned by the Canadian-owned company Lucara Diamond. The diamond is now the second-largest diamond ever mined! The mine uses a new Mega Diamond Recovery ("MDR") X-ray Transmission ("XRT") technology. They use X-rays to identify large stones in the mine's rough, and then new grinding techniques and equipment to remove large stones from the surrounding matrix without damaging the diamond.



This new diamond has yet to be named. Lucara is continuing to examine the stone to determine its clarity and possible included fractures. Like most of the large diamonds, it will likely be sold and cut into large and small diamond gemstones.

References:

Smithsonian Magazine, <https://www.smithsonianmag.com/smart-news>

Second Largest Diamond, New York Times, <https://www.smithsonianmag.com/smart-news/largest-diamond-since-1905-unearthed-by-miners-in-botswana-180984962/>

Cullinan Diamond, Wikipedia, <https://en.wikipedia.org/wiki/>

A Blast from the Past: Birthstone for September - Sapphire

Don Shurtz, Pleasant Oaks Gem and Mineral Club of Dallas
From the September 2016 Chips and Chatter

Corundum is the crystalline form of Aluminum Oxide, Al_2O_3 . A corundum colored red is called Ruby, a corundum of a pinkish-orange color is called Padparadscha, and a corundum of any other color (including clear) is known as Sapphire. Often the color of the stone will be attached to the name such as blue sapphire or white sapphire. The most desired color for sapphire is a deep blue, but sapphires may also be yellow, purple, pink, orange, green, yellow, brown, black, and white. Sapphire is colored by trace elements that replace the aluminum in the crystal structure; the trace elements include chromium, iron, copper, magnesium, and titanium. Trace amounts of iron and titanium cause the blue color in sapphire, and increased amounts of iron and titanium cause the blue color to be deeper. If iron without titanium is the trace element, the sapphire will be yellow to pale green. Sapphire is the defining stone for Mohs' hardness of 9.

Transparent sapphires are generally faceted. However, some sapphires (and rubies) exhibit asterism, more commonly called a star, and are cut as a cabochon. An inclusion of needle-like material, generally rutile (titanium oxide), causes the star. The needles normally align to produce a six-pointed star. If there is a second layer of inclusion, the star may be 12-pointed. If the titanium oxide inclusion forms as twinned crystals, a second star with the same orientation as the first star may occur but will be slightly displaced producing a double star.



In addition to jewelry, sapphire has many commercial applications including abrasives, watch face crystals, small bearings for mechanical movements such as watch movements, and as an insulator in semiconductor microchips. Synthetic sapphire (and ruby) were also used as the lasing element in some of the earliest lasers.

Most sapphires are heat-treated to improve the transparency and deepen the color. The one exception is the Yogo® Sapphire. The Yogo sapphire is deep cornflower blue in color. Yogo sapphires became popular in the 1980s when it was revealed that over 95% of sapphires were heat treated; Intergem Limited was able to market Yogo sapphires as guaranteed not to be heat treated. Infusion is another technique to enhance sapphires. Beryllium is added infused into the sapphires at a very high temperature and initially resulted in orange sapphires which were very similar to natural padparadscha corundum. With improvements in the process, they are now able to create many different colors of sapphire.



Sapphires are mined in many parts of the world. The largest supplier of sapphires is Madagascar, but significant mining operations also occur in Australia, the Kashmir regions of India and Pakistan, Myanmar, Columbia, Malawi, Sri Lanka, and Tanzania. Sapphires are also found in the United States, primarily in Montana with a few found in North Carolina. The Yogo sapphire comes from the Yogo Gulch near Lewistown, Montana.

In addition to treating gem sapphires, now many of the commercial stones are synthetic sapphires. The first synthetic corundum (ruby) was created in 1902. In 2003 about 250 tons of synthetic sapphire were produced, mainly by the United States and Russia. As mentioned earlier, the first laser used ruby as the lasing element, and the ruby was synthetic. Sapphire lasers were also popular. Many titanium-sapphire lasers were produced due to their unique capability to be tuned to various red and infrared frequencies.

References

American Gem Society, <https://www.americangemsociety.org>
Wikipedia, <https://en.wikipedia.org/wiki>

Pictures by Don Shurtz of Star Sapphires on display at the Perot Museum of Nature and Science

Chips and Chatter

See the Chips and Chatter online for color!

September 2023

Pleasant Oaks Gem and Mineral Club of Dallas, TX

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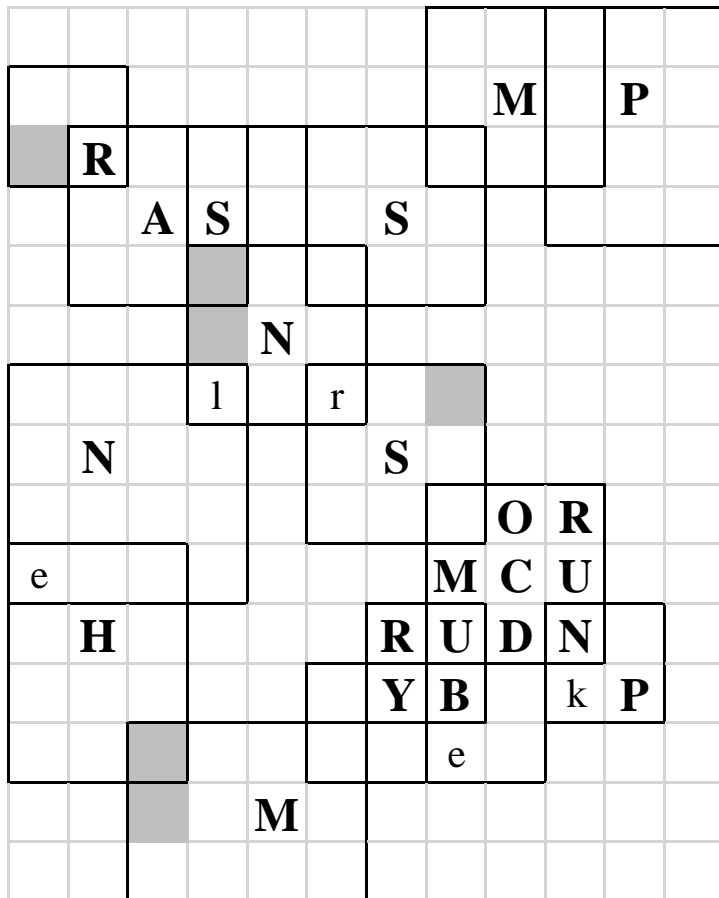
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Block Word Fill-In Puzzle

Don Shurtz, Pleasant Oaks Gem and Mineral Club

This puzzle is about Sapphires, the September birthstone. It may look easy, but sometimes looks are deceptive. Each word is contained in a block (a square or a rectangle). Except for the 2 x 2 square blocks, the first letter will be in or near the middle of the block. The second letter can be to the right, left, top, or bottom of the first letter. The rest of the letters will flow clockwise or counterclockwise around the first letter. The word ends up being like a snake in a cage (block). All the blocks are connected to one or more of the other blocks. To help you, I have placed the first letter of each word in a capitalized, larger, and bolded font into the correct puzzle block. For a little more help, I have added a few more lowercase, un-bolded, and smaller-size font letters in the correct places of the puzzle. The lowercase letters should help you solve ambiguities and connections of the blocks. I have also placed the word CORUNDUM in the puzzle. You may also note that because I added the first letters, the word RUBY is also placed in the puzzle. The boxes are the blocks that contain the completed word. The grey squares are places within the block that do not contain a letter (hint: they may help you place the last letter of each word in the box). After you have filled in a few of the words, the puzzle should get easier. Hope you enjoy the puzzle.

The Puzzle



The Word List

WORD LIST
ASTERISM
BLUE
CORUNDUM
HEATTREATED
MADAGASCAR
MONTANA
NATURAL
NORTHCAROLINA
PADPARADSCHA
PINK
RED
RUBY
SAPPHIRE
STAR
SYNTHETIC
YOGO

Shows and Activities – Upcoming Show and Activity Dates

Check with the show contact to verify the show status

September 2024

- September 28-29, Lubbock G&MS, Lubbock Memorial Civic Center, Lubbock, TX, www.lubbockgemandmineral.org

October 2024

- October 12 – 13, Temple, TX, Tri-City G&MS, Frank W. Mayborn Civic Center, email: lrolston@hotmail.com
- October 18 – 20, Austin, TX, Austin G&MS, Palmer Events Center, website: www.agms-tx.org
- October 25-27, Oklahoma City, OK, Oklahoma M&GS, State Fair Park-Modern Living Bldg, email: douglas.pollitt@yahoo.com

November 2023

- November 2-3, Amarillo, TX, Golden Spread GM&TS, Amarillo Civic Center, website: www.goldenspreadgemmineraltreasuresociety.com
- November 23-24, Mesquite, TX, Dallas G&MS, Mesquite Convention Center, www.dallasgemandmineral.org. **THIS SHOW WILL BE HOSTING THE SCFMS CONVENTION**

Ref: Rock & Gem Show Dates, <https://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=ALL>

Ref: July-August 2024 SCFMS Newsletter

Bench Tips from Brad Smith



A tool you don't see often these days is a tapered reamer. It's not a tool you'll use every day, but they're particularly useful for making an irregular hole round or for enlarging a hole to an exact diameter. For example, the small set in the yellow pouch is for holes in the range of 0.3mm to 2.5mm. They are great for sizing a tube to fit a hinge pin. Other times when I'm drilling a hole for riveting and can't find the exact size drill, I simply drill the holes with a slightly smaller bit and enlarge them with a reamer until the wire just fits. For larger hole sizes in sheet metal up to 14 ga, I really like the reamer with the black handle. It makes quick work of sizing holes from about 3mm to

12mm. You can find them in well-equipped hardware stores.

You may never use the large diameter reamers, but when sawing out a ring from a 4mm thick sheet, I found they worked well for rounding and sizing the hole.

Smart Solutions for Your Jewelry Making Problems



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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, 7
- [Wild West Bead Society](#), meets 3rd Tuesday of each month at 6:30 pm, Wild Beads, 1124 S. Bowen Road, Arlington, TX

OFFICERS FOR 2023 – 2024

President: Joe Vulk
 1st VP, Programs: Carolyn Grady
 2nd VP, Field Trips: Julie Wilson
 Secretary: Amy Vulk
 Treasurer: Ling Shurtz
 Editor: Don Shurtz
 Contact us by e-mail: don.shurtz@gmail.com or L.SHURTZ@gmail.com

Minutes of the August 8 Meeting

POGMC President Joe Vulk called the 8/5/2024 club meeting to order at 7:27 pm.

Snack time: Until late-comers arrive. Thanks to Cheryl, Carolyn, Hatt, and the Vulks for providing the snacks.

Pledge of Allegiance: All stood and recited the pledge.

Quorum: We had a quorum.

Visitors: Steve Thomas visited and signed up to join the club.

Minutes:

Minutes of the June meeting were published in the July Chips and Chatter. Julie made a motion to accept the Minutes as presented. Warner seconded the motion. The motion passed by a vote of members present.

Treasurers Report:

Don presented the Treasurer’s Report. Carolyn made a motion to accept the Treasurer’s Report. Julie seconded the motion. The motion passed by a vote of members present.

Old Business:

- Storage of the club's collection: Julie offered that she and Warner could obtain specimen trays in exchange for items from our Club collection. They would not have time to devote to this effort until January due to their expected busy schedule.
- SCFMS president, Don reported that he is still seeking someone to fill the position of SCFMS club secretary. He also said that the latest SCFMS newsletter is available on the scfms.net website, <http://www.scfms.net/>.

New Business:

- Thanks to Don for paying the fee to maintain our club's pogmc.org domain hosting. Members present approved payment of \$120 to reimburse Don for his paying for three years of domain hosting.
- Julie reported that she and Warner would not be doing the October IGEM due to their busy schedule involving their State Fair of Texas booth.

Presentation: Don brought in some of the club’s amethyst specimens recently donated by Susan and Dean Powell All members pitched in and removed the deteriorating wrappings and rewrapped the specimens for better preservation and display.

Raffle: Don provided the raffle of items from the club collection and donations. As their name was drawn, each member had a choice of items on the table.

Joe adjourned the meeting at 9:05 pm

Raffle: Don provided the raffle of items from the club collection. As their name was drawn, each member had a choice of items on the table.

PRESIDENT’S MESSAGE

Brenda and I enjoyed the August meeting when we all pitched in to rewrap the collection of amethysts donated by the Powells. It was a big job but with all the members working on it together, it went quickly.

I am pleased to welcome our newest member Steve Thomas.

I hope everyone can make it to our September meeting.

I will be asking for a nominating committee. This committee will provide a slate of officer candidates for the October election of officers for the next term.

I suspect that Don will have some information for the SCFMS convention scheduled to take place in Mesquite in November.

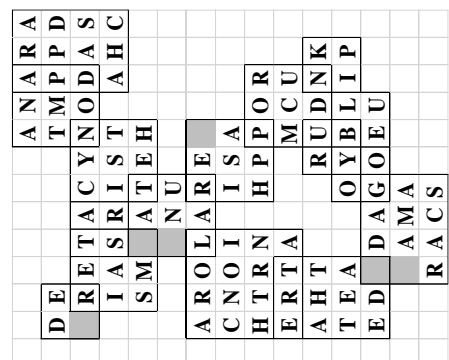
Joe Vulk

NEXT MEETING

Our next meeting will be on September 2, 2024”. We will meet at the Knights of Columbus Hall, 3722 Cavalier Drive, Garland. For our presentation, we will view a video.

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Puzzle Solution



PLEASANT OAKS GEM and MINERAL CLUB of DALLAS



Meetings

First Monday of each month, KofC Hall, 3722 Cavalier Dr., Garland, TX. 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 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 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 will be Thursday, September 2, 2024, starting at 7:00 PM. We will meet at the Knights of Columbus Council 6402 Hall located at 3722 Cavalier Drive in Garland.
The activity for the meeting will be a hobby-related video**

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