

TAR HEEL



ROCKHOUND

OCTOBER 2024

Catawba Valley Gem & Mineral Club, Inc.

2024 Officers and Committees

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Editor:	Tracie Jeffries 828-430-1341		

Club Address: PO Box 2521, Hickory NC 28603-2521
 Regular Meetings: Second Tuesday, 7:00 PM
 St. Aloysius Catholic Church, 921 2nd St. NE Hickory, NC
 Annual Dues: Family, \$25, Individual, \$18

The purpose of the Club is to increase the individual's knowledge of the earth sciences and to aid in the development of lapidary and related arts and skills; to promote fellowship and exchange of ideas; to hold exhibitions, contests, lectures and demonstrations for educational purposes; to help interest more people in the gem and mineral hobby; and to capture and preserve the beauty of nature, the arts, and the works of man.

**CATAWBA VALLEY GEM AND MINERAL CLUB,
INC.**

Web Master: Mike Streeter

<http://www.cvgmc.com>

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PRESIDENT'S REPORT

Hello Fellow Members,

Technology can make our lives easier and better.

I use technology when organizing and working with my collection. I have a large excel spreadsheet where I enter data about each specimen. I include information such as, name of the specimen, when and how it was obtained, where it came from, cost if it was bought, and other data. I also can type and print nice labels for my specimens. I also enjoy using the computer to research and learn about geology and its many topics. Some of my favorites sites are:

- Mindat.org, <https://www.mindat.org>
This site has an extensive and excellent database for rocks, minerals, and meteorites. There are maps, photos, and forums where you can ask questions and join in on conversations with other rockhounds.
- Youtube.com, <https://www.youtube.com/@shawnwillsey>
Shawn Willsey is a geology professor at the University of Utah. He has a large library of videos ranging from basic geology lessons to explaining the geology of areas he travel to around the world.
- Youtube.com, <https://www.youtube.com/@GeologyNick>
Nick Zentner is another geologist that teaches at Central Washington University in Ellensburg, Washington, USA. He also has a huge library of videos on various geology topics.

But, technology can also be very frustrating!

I have tried to beef up our newsletters by adding some new sections and adding a monthly article. However, this is causing a problem for some members because the newsletter file is too big for their e-mail service to receive and open. The problem is I don't know how big is too big because this will vary from one system to another. Hopefully, on months where the file is too big, these members can access the newsletter on the club website, <https://cvgmc.com/Newsletters.html>. I apologize for any inconvenience and will try to keep this from happening in the future.

Tracie Jeffries

CVGMC MINUTES FOR SEPTEMBER 10, 2024

The September 10, 2024 meeting of the CVGMC was called to order by President Tracie J. at 7:00 PM.

New Members: David and Tori I.

Visitors: Stan and Hope B.

Program: "Geology at the Norwegian Geological Society Museum, in Oslo, Norway", presented by George M.

Minutes: A motion was made by Harry P. and seconded by Rick G. to accept the August 13, 2024 minutes. Motion was passed by the Club.

Treasurer Report: Bank balance was reported.

Education Committee: None

Show Committee:

1. The CVGMC Annual Show will be October 18-20, 2024, at the Hickory Metro Convention Center in the Hickory Room.
2. This year's theme is: "An Explosion of Color (The Wonderful World of Rocks and Minerals)".
3. There will be 30+ vendors.
4. Tracie J., the Exhibit Area Coordinator, will need your help in set-up, take down, running the exhibit and members setting up their own display case.
5. Yard signs will be available at the CVGMC picnic

Field Trip Report: None

Old Business: None

New Business:

- Grab bags will be September 28, 2024
- CVGMC purchased a fluorescent cabinet for the shows.

Announcements: Annual Club Picnic will be October 8, 2024, starting at 6:30 PM at Harry and Janice P. house. Watch your email for more information in the future.

Closing of Business: The meeting was adjourned at 7:52 PM

Respectfully Submitted,

Dean Russell, Secretary

OCTOBER PROGRAM

There is no regular meeting and program scheduled for October. Instead, we will have our annual club picnic October 8th at Harry Polly's house. We will meet at 6:30. To get more information, directions, and to sign up for food please go to:

perfectpotluck.com

The organizer is: Russell

The password is: Rockhound

Make sure you pick the October 2024 date and fill in your information.

The address and directions to Harry's house will also be on the sign-

up page. I look forward to seeing everyone and having a great meal and fellowship!



CATAWBA VALLEY GEM AND MINERAL SHOW OVERVIEW

“An Explosion of Color (The Colorful World of Rocks and Minerals)”

GENERAL INFO:

The Catawba Valley Gem and Mineral Club, Inc. will hold their 54th Annual Gem, Mineral, Fossil, and Jewelry show on October 18, 19, and 20, 2024 at the Hickory Metro Convention Center. The convention center is located at 1960 13th Ave Drive SE, in Hickory, NC. Hours are 10:00 a.m. till 6:00 p.m. on Friday, 10:00 a.m. till 6:00 p.m. on Saturday, and 10:00 a.m. till 5:00 p.m. on Sunday. Admission is \$6.00 which is good for all three days. Children 12 and under are admitted free. Law enforcement officers, fire fighters and active or retired military with credentials, Scouts and Leaders in uniform will be admitted free anytime during this 3 day event. For an \$1.00 off an adult admission coupon, got to www.cvgmc.com .

SPECIAL EVENTS:

Scheduled are many educational displays and presentations that will be in operation during regular show hours. Some of the areas will include Children's "Hands On" table, Mini Mine for children, and a special activities table sponsored by the Appalachian State Geology Club (Saturday only). Other glass-enclosed displays will feature high quality specimens from many United States locations and other countries. On Saturday, October 19th , CVGMC members will be demonstrating wire-wrapping, cabochoning, and other lapidary arts from 10:00 AM to 5:00 PM.

DRAWINGS:

Drawings for regular door prizes will be held every hour and a Grand Door Prize will be drawn on Sunday at 5:00 PM. Each paid admission will be eligible for the Grand Door Prize drawing. The club will be selling grab bags containing minerals and fossils for \$1.00 each for as long as they last.

FOR MORE INFO:

The web page for the club is www.cvgmc.com Special Events. The Facebook page with show news is Catawba Valley Gem & Mineral Club, Inc. Annual Show. For additional information concerning the show, contact Dean Russell, show chairman, at cvgmcsecretary@aol.com or (828) 303-1448.

OCTOBER GEM AND MINERAL SHOW REMINDERS FOR MEMBERS

Wednesday, Oct. 16th: Volunteers needed around 2:30 to help set.

Thursday, Oct. 17th: After 1:00 pm you can come in to set up your exhibit case.

Friday – Sunday: Please show up for your assigned time to sell tickets, grab bags, and other volunteer duties. **We are still in need of ticket and grab bag volunteers for the following time slots.**

- Fri, Oct. 18. 9:45 am – 1:00 pm / 12:45pm – 4:00 pm
- Sat, Oct. 19. 9:45 am – 1:00 pm / 12:45pm – 4:00 pm / 3:45 pm – 6:00 pm
- Sun, Oct. 20. 9:45 am – 1:00 pm / 12:45pm – 5:00 pm
- The only time slot needed to be filled for grab bags is Sat, Oct 19 12:45 pm – 4:00 pm

Please consider volunteering for this – it's a great way to get to know new and returning members of the club. Terry will have the sign-up sheet at the picnic at the October meeting. You can also see Tracie, Terry, Dean, or Slade to see where help may be needed through-out the weekend.

Sunday, Oct. 20th : After 4:00 pm please come and dismantle your exhibit, and we will also need help breaking down the show.

I look forward to a successful show and thank-you for all you do!

GRAB BAG WORKDAY

The grab bag work day has changed again due to Hurricane Helene. We will pack grab bags for the show on **Saturday, October 5** from **8:00 AM to 11:00 AM**. We will meet at the **St. Andrew's Lutheran Church 629 Eighth Street NE, Hickory**. We will work in Fellowship Hall on the bottom floor so park in the lot at the back.

Please bring a variety of different rocks, minerals, and fossils which are clean and of appropriate size (no larger than a baseball.) Remember everything has to fit into a small paper bag. Grab bags are a very popular item at our rock shows especially with the children and we need as many as we can make.

GEOLOGY MADE SIMPLE: BERYL

By Tracie J.

Beryl is a silicate mineral with the chemical formula $\text{Be}_3\text{Al}_2(\text{Si}_6\text{O}_{18})$. The general traits are summarized in table one. Beryl forms hexagonal crystals, some up to several meters long (see images 1, 3, 4,6, and 7). They are often found in granitic pegmatites (see image 1), mica schists, and some tin ores. Western North Carolina is famous for its beryl stones found in granitic pegmatites.



IMAGE 1: Beryl in granite pegmatite from the Hale-Walker quarry,
Collins Hill, Portland, Connecticut, USA

<https://www.weinrichmineralsinc.com/products/beryl-3501053.php>

Beryl is a favorite of collectors and lapidarists for many reasons.

Color: Beryl comes in an amazing range of beautiful vibrant colors (see Table 2 and Images 3). These colors are what define many of the beryl varieties.

Rarity: Most gemstones are considered to be rare. Two terms commonly used to describe gemstones are “precious and semi-precious stones”. Only four minerals are traditionally considered to be precious stones, the Diamond, Sapphire, Ruby, and Emerald. Other gemstones are considered to be semi-precious. These are old terms based mainly on conceived rarity. Today there are many factors taken into consideration when referring to specific stones as gemstones. In general, most of the beryl varieties, especially Emerald, Bixbite, and Morganite, are considered very rare and are highly valued!

Cool Fact: Did you know that Emeralds are 20 times rarer than Diamonds?

Hardness: Ideally gemstones should have a Moh’s hardness of 7 or more. This makes them durable and resistant to scratching. Softer stones can be used for jewelry but may damage easily and lose their luster over time due to scratches. Beryl is a great gemstone because it has a hardness of 7.5 -8 on the Moh’s scale. This makes beryl very durable and it holds its luster.

Clarity: Beryl can vary greatly with clarity/transparency. Some Beryl is opaque and only of interest to collectors. Other samples are gem quality (see images 2-7), and vary in clarity. Some varieties, such as Emeralds, are infamous for inclusions and small fractures but because of their rarity they maintain their value. Other varieties, such as Goshenite (see image 7), are known for being flawless.

Cut: Beryls lend themselves to a wide variety of cuts (see image 2). This along with their amazing colors makes them desirable among gemologists!

CHARACTERISTIC	
Color	Wide range of colors
Moh’s Hardness	7.5 - 8
Specific Gravity	2.75 – 2.8
Cleavage	None to Indistinct in one direction
Fracture	Conchoidal
Luster	Vitreous
Streak	White

TABLE 1: Summary of Beryl Traits

VARIETY	COLOR	COLOR DUE TO:
Aquamarine	Pale to Sky Blue	Ferrous Iron (Fe ²⁺)
Bixbite	Orange-red to Red to Purplish Red	Manganese
Emerald	Bluish green to green	Chromium or Vanadium
Goshenite	Clear/Colorless	
Heliodor	Yellow to Golden Yellow to Yellowish-green	Ferric Iron (Fe ³⁺)
Morganite	Pink to Rose	Manganese

TABLE 2: Summary of Beryl varieties



IMAGE 2: Note the wide variety of colors and the wide range of cuts.

<https://www.geologyin.com/2017/05/the-different-beryl-varieties-with.html>

Emerald

Emeralds are medium to dark green and some may have a bluish-green color. Their color comes from a combination of iron with chromium, and/or vanadium. But be careful, not all green colored beryls are Emeralds. This is a variety of beryl simply known as 'Green Beryl'. It is a very pale green and is only colored by traces of iron, it lacks the chromium and/or vanadium of true Emeralds. Emeralds are difficult to mine and work with because they tend to be fragile/brittle and break easily. Emeralds also commonly contain inclusions and small fractures. The inclusions are unique for each stone and are like fingerprints that help identify a

specific stone. Within the industry the inclusions are accepted as part of the stone's character. However, most emeralds are still treated with oils and resins to increase clarity.

In 1973, North Carolina adopted the emerald as its official gemstone. It has produced some of the largest emeralds found in North America (see image 3). Even though North Carolina is the only state within the US with any significant emerald deposits, it is not a viable economic source of emeralds. Most emeralds on the market today come from Brazil and Columbia.

Emerald is the birthstone for May and the 20th anniversary stone.

If you would like to learn more about NC emeralds read, 'The Gems of Hiddenite, North Carolina: Mining History, Geology and Mineralogy', by Mark Jacobson and Wade Speer, October 12, 2021 and/or 'In Search Of The Scarce Gem Hiddenite And The Emeralds Of North Carolina', by M. Richard Harshaw Jr., 1974.



IMAGE 3: Examples of North Carolina Emeralds

<http://northcarolinaemeralds.blogspot.com/2018/>

Aquamarine

Aquamarine is a blue variety of beryl. The color ranges from the lightest tinge of blue, almost colorless, to a sky blue, to a bluish green. Darker blues are the most desired and almost all aquamarine on the market has been heat treated to enhance the color and remove any yellow tints. There is a sub-variety of aquamarine called 'Maxixe' mined in Minas Gerais, Brazil (see image 2). It is naturally a deeper blue and is often referred to as "Blue Beryl". Unfortunately, the color fades when exposed to light and heat.

Aquamarines are a favorite among collectors because of its beautiful color, amazing clarity/transparency, and it can form large flawless crystals (see images 2 and 4).

Aquamarine is the birth stone for March.



IMAGE 4: Aquamarine, notice the hexagonal crystals
Collected in Shigar Valley, Skardu, Baltistan, Gilgit-Baltistan, Pakistan
Measures 11.0 x 7.5 x 5.0 cm
<https://www.weinrichmineralsinc.com/products/beryl-var-aquamarine-3021002.php>

Morganite

Morganite is a pink variety of beryl. It has been called 'Pink Beryl', 'Rose Beryl', and 'Pink Emerald'. The actual color can range from peach to a light pink to a darker rose pink color. These stones are commonly heat treated to produce a darker more desirable pink color. The stone is named after the famous American industrialist, J.P. Morgan who was also a renowned gem collector! Morganite is a very sought after and valuable gemstone. It is one of the rarer beryl varieties, and unlike Emeralds and Bixbite, it lacks inclusions and fractures giving it excellent clarity!

Heliodor

Heliodor is also called 'Yellow Beryl' or 'Golden Beryl'. The name 'Heliodor' is derived from the Greek meaning 'gift of the sun'. The color ranges from pale yellow, to a darker yellow, to greenish-yellow, or orangish yellow (see images 2 and 5). It is one of the more common beryl varieties and tends to form small crystals usually less than 20 carats. Clarity is usually good but many specimens will have inclusions in the form of long hollow tubes. Fortunately, if the stone is oriented correctly when cut, the tubes give the gem a chatoyancy or cat-eye effect. Almost all Heliodor is heat treated to enhance (darken) the color and there is no way to tell if it has been treated or not. Another problem in the market is the heat treatment of the colorless Goshenite beryl variety. When heated it turns yellow and is stable except at high temperatures (over 250°C). The main sources of Heliodor are Brazil, Madagascar and Namibia.



IMAGE 5: Carved frog on heliodor.

Alfred Zimmerman, Da Vinci, beryl var. heliodor, Loaned by "Somewhere in the Rainbow Collection", photo by Nathalie Mornu

Bixbite

Bixbite or 'red beryl' is not only the rarest form of beryl but one of the rarest gemstones in the world! It is also referred to as 'Red Emerald' or 'Scarlet Emerald'. The color ranges from orange red to bright red to a dark purplish red (see images 2 and 6). The color is stable and does not change when exposed to light or heat (less than 1000°C). Like emeralds it often contains inclusions and fractures that are embraced as part of the stone's personality.

Unlike other beryl varieties, that are usually found in granitic pegmatites, Bixbite forms in rhyolite an extrusive igneous rock. It is only found in a handful of areas and most crystals are small, less than an inch long. The main source of these gemstones was the Ruby-Violet Claim in the Wah Wah mountains of Utah. This mine is now closed making the gemstone even rarer.



IMAGE 6: Locality: Harris Claim, Wah Wah Mountains, Utah

Size: small cabinet, 6 x 2.7 x 2.6 cm

Attribution: Rob Lavinsky, iRocks.com – CC-BY-SA-3.0

Goshenite

Goshenite is a clear/colorless variety of beryl. It is named after the town of Goshen Massachusetts where it was first discovered. It is also called 'White Beryl' and 'Lucid Beryl'. It is considered the purest form of beryl with good clarity (see images 2 and 7). However, it is the

least valuable of the beryl gemstones, due to its relative abundance, lack of color, and small crystals. It was once rather ignored but has recently gained favor among gemologists. Goshenite can now be changed into different colors, yellow, green, blue, and pink, depending on the type of elemental impurities and the type of radiation a stone receives. These colors mimic the other beryl varieties and are used to make jewelry. Goshenite is even gaining favor as a cheaper substitute for Diamonds among the general public.



IMAGE 7: Goshenite crystals on muscovite mica
from Shigar District, Gilgit-Baltistan, Pakistan.
<https://e-rocks.com/item/rht723935/beryl-var-goshenite-muscovite>

I hope the reader has a better understanding and appreciation of beryl and all its beautiful varieties!

WHAT'S HAPPENING IN OUR AREA

WHAT	WHEN	WHERE
Catawba Valley Gem and Mineral Show	Oct. 18 – 20 Hours: Fri/Sat 10:00-6:00 Sun 10:00-5:00	Address: 1960 13th Ave Dr SE Hickory Metro Convention Center Hickory, NC 28602
Leaf Lookers Gemboree	Oct. 18 - 20 Hours: Fri/Sat 10:00-6:00 Sun 10:00-4:00	Address: 1288 Georgia Rd Macon County Community Building Franklin, NC 28734
Treasures of the Earth	Nov. 15 – 17 Hours: Fri Noon-6:00 Sat/Sun 10:00-5:00	Address: 4285 Trinity Rd North Carolina State Fairgrounds Raleigh, NC 27607

Tar Heel Rockhound
Official Publication of
Catawba Valley Gem and
Mineral Club, Inc.

Volume 54 Number 10

Club Meetings

2nd Tuesday of Month, 7:00PM

St Aloysius Catholic Church

921 2nd Street NE Hickory, NC

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Organized 1969

