

TAR HEEL



ROCKHOUND

APRIL 2025

Catawba Valley Gem & Mineral Club, Inc.

2024 Officers and Committees

President:	Tracie Jeffries 828-430-1341	Education:	George Max 828-328-9107
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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,

Wow, March was a busy month! The club did a spectacular job with the March Gem and Mineral Show, the American Federation of Mineral Societies (AFMS), and the Eastern Federation of Mineral and Lapidary Societies (EFMLS) conferences. Many conference members complimented the club on the show and the great job we did as conference hosts. They were surprised that a club our size put on such a large show and had a large interactive exhibit area.

As president and Exhibit Coordinator, I thank the people and groups below.

- Thanks to Dean and Terry R. for their time and hard work organizing the show, conferences, and banquet. They go above and beyond to ensure the club is presented as positive and professional. They are a true asset to the club.
- Thanks to Cheryl Neary for her guidance and help with the conferences.
- Thanks to all the volunteers who helped with setting up, take down, ticket sales, grab bags and magazine sales, staffing areas in our exhibit area, relieving vendors, and more. I would list names, but I am afraid I would accidentally leave off a name and unknowingly insult someone. However, you know who you are, and I appreciate your time and effort.
- Thanks to all the members, guests, and vendors who took the time to do display cases. These displays add a lot to the exhibit area.
- Thanks to the Hickory area Outback Steakhouse and Golden Corral for providing coupons for the conference attendees. Thank you for your generosity!
- Thanks to Warren H., Betty H., and Brenda H. for the touching memorial table for Larry Huffman.
- Thanks to the Hickory Metro Convention Center, Harry P., Cheryl N., Dean R., and Terry R., for providing materials for the conference swag bags.

- Thanks to Richard, Laura, and Shelda A. for taking the time and effort to set up their extensive and impressive fossil collection.
- Thanks for the special exhibits by Mark R. and David C.. The displays were impressive!
- Thanks to Tina L. for making the beautiful pottery trays used as centerpieces and door prizes at the joint AFMS and EFMLS conference banquet.
- Thanks to the Appalachian Geology Club students, Josh C., Sophia C., AJ C., and James B.. The students interacted with 188 individuals during their stay on Saturday!
- Thanks to Dale R. for graciously stepping in and doing a great job helping with the 'Kid's Corner'.

I hope I did not forget anyone. If I did, it was not intentional. As you can see, many people contributed to the success of the show and conferences. Give yourselves a big pat on the back for a job well done!

CVGMC MINUTES FOR MARCH, 2025

The March 11, 2025 meeting of the CVGMC was called to order by President Tracie J. at 7:00 PM.

Visitors – None

Program: The program for March was a review of what is needed for the March 28-30, 2025 CVGMC Annual Show.

Minutes: A motion was made by Harry P. and seconded by Rick G. to accept the February 11, 2025 minutes. Motion was passed by the Club.

Treasurer Report: Bank balance was reported.

Education Committee: None

Show Committee:

1. The CVGMC Annual Show is March 28-30, 2025. We will be using the Catawba Room and the Multipurpose Sports Venue for the Show and the AMFS and EFMLS Conventions.

2. Please consider where you can volunteer to help with the show.
3. Theme of the Show is "All in the Family"
4. Contact Tracie J. about having a display case.
5. The Show is dedicated to Larry Huffman.

Field Trip Report:

Old Business: None

New Business:

1. The Catawba Library system would like the Club to provide three programs for children 6-9-years-old. We will need topics and volunteers. Please, contact Tracie Jeffries if you can help.
2. Former CVGMC member Judy G. passed away and her son donated part of her collection to the Club. Many items can be used for the Mini Mine.
3. There was discussion of a possible scholarship for a Club member to Wild Acres in Judy's name. Tabled until a future meeting to discuss specifics.

Announcements:

1. CVGMC needs volunteers for a Scout Camporee event on Saturday, May 3, 2025.
2. Please send your membership forms and dues to Terry R. or the PO Box.
3. The Club discussed possibly providing Club member names, phone, and email addresses, with the Club member's permission. If you do not want your name and information made available, please contact Tracie J. as soon as possible.

Closing of Business: The meeting was adjourned at 8:23 PM

Respectfully submitted,
Dean Russell, Secretary

APRIL PROGRAM

The April 9th program will be “Shades of Green from Helene Disaster Area” by Ron Ruschman.

CLUB OUTREACH AND VOLUNTEER OPPORTUNITIES

On April 10th and 11th, the club will attend the annual, ‘Heritage Days at Maple Grove’. This is an event organized by the Hickory Landmarks Society for area fourth-grade students.

In July, the club will do two programs for the Catawba County Library System. The first program will be at the Conover Branch on Thursday, July 17th, at 10:00 AM. The program will be about gemstones. We will do a short talk about how to ID gemstones. Then, we will help the children screen and wash a bucket of gemstones and ID their minerals/gems. If you would like to help, please talk to Tracie J.

The second program will be at the Maiden Library on Friday, July 16th, at 3:00 PM. The program will be on volcanoes. We will talk about different types of volcanoes and their structure. Then, the children can see and explore some volcanic rocks. If you would like to help with this program, please see Tracie J.

GEOLOGY MADE EASY: TALC

By Tracie J.

INTRODUCTION:

Almost everyone is familiar with Talc. It is rated ‘one’ on the Mohs hardness scale, one of the softest minerals known to exist. Only two other minerals, graphite and molybdenite, have a rating of ‘one’ on the Mohs scale. These minerals are so soft they can easily be scratched with a fingernail. However, there is more to Talc than just its softness (See Table 1). Talc is a phyllosilicate metamorphic mineral that usually forms fine-grained foliated masses. Talc, is a very complex mineral and can vary in how it is formed, its texture, color, other elemental inclusions, and ‘purity’ (See images 1, 2, and 3).

PROPERTIES	
COLOR	Color ranges from colorless, white, silverish-white, grey, brownish, blue, yellowish, and light to darker green
MOHS	1
STREAK	White
LUSTER	Depending on the specimen it can range from sub-vitreous, waxy, pearly, greasy, or resinous
CLEAVAGE	1 perfect plane
FRACTURE	Uneven - Flat surfaces (not cleavage) fractured in an uneven pattern
SPECIFIC GRAVITY	2.58–2.83
DIAPHANEITY	Translucent to opaque
CRYSTAL SYSTEM	Monoclinic or triclinic, Crystals are rare
OTHER	Some talc specimens are fluorescent, Short UV=orange yellow, Long UV=yellow Feels greasy or soapy Produces flakes when handled

TABLE 1: This chart summarizes the properties of the mineral Talc.



IMAGE 1: Examples of Talc colors: white, dark gray, and brownish.

By Ra'ike (see also: de:Benutzer:Ra'ike) - Own work, CC BY-SA 3.0,
<https://commons.wikimedia.org/w/index.php?curid=9922922>



IMAGE 2: A beautiful apple green specimen of Talc from the Argonaut Quarry in Windsor County, Vermont. Note the foliated appearance and pearly luster.

Photo by Stephanie Clifford ([Flickr](#); [Creative Commons Attribution 2.0 Generic](#) license).



IMAGE 3: A beautiful pink sample of Talc. Location unknown.

[https://gemcrust.fandom.com/wiki/Marshallsussmanite_\(navel_gem\)?file=Marshall_real.JPG](https://gemcrust.fandom.com/wiki/Marshallsussmanite_(navel_gem)?file=Marshall_real.JPG)



IMAGE 4: A sample of white Talc embedded with Actinolite crystals. This sample was collected near Hanging Rock State Park in Stokes County, NC. Photo by Tracie J.

TERMINOLOGY:

Before we go further, let's clear up some terminology. What is the difference between Talc, Soapstone, and Steatite? These three terms are often used interchangeably, but are they the same? The definitions and use of these terms can vary from source to source, adding to confusion among collectors and the general public. According to the USGS (United States Geological Survey), "The mineral talc is a hydrous magnesium silicate. A massive talcose rock is called steatite, and an impure massive variety is known as soapstone" (See resource 1). This explanation is consistent with the government of India's Ministry of Mines. In trade terms, they define Talc as a hydrous magnesium silicate in the form of flakes and fibers, Steatite as a compact massive variety of high-grade talc, and Soapstone as a massive, soft, and soapy feeling talc-like rock containing about 50% Talc (See resource 2). So, to summarize, Talc is a mineral, Steatite and Soapstone are rocks composed of the mineral Talc. Steatite refers to a very high-grade, purer form of Talc, while Soapstone has a lower percentage of Talc (See images 4 and 5). However, the general public and most collectors do not discriminate between these terms. Therefore, in this article, I will use the term 'Talc' to refer to all three unless otherwise noted.



IMAGE 5: This is an example of Steatite. Note the light grey color, and fine-grained, non-foliated texture. Also, notice the saw marks on the stone. This piece was cut off a larger hearthstone in a log cabin near Table Rock, NC. This sample is approximately 12 x 7.5 x 9.5 cm in size. Photo by Tracie J.



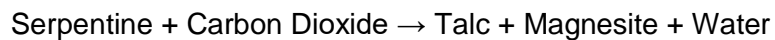
IMAGE 6: This is an example of Soapstone. The rock is fine-grained, non-foliated, and feels slippery or 'soapy' to the touch. This Soapstone was collected in Catawba County, NC. This sample is approximately 14 x 11 x 5 cm in size. Photo by Tracie J.

FORMATION:

The chemical formula for Talc is $Mg_3Si_4O_{10}(OH)_2$. It is a metamorphic rock formed by the hydrothermal alteration of other existing rocks. The type, quality, and color of Talc formed depends on the properties of the parent rock and slight differences in heat and pressure during the metamorphic processes. Talc can form from the metamorphic alteration of sedimentary magnesium carbonate rocks such as dolomite and magnesite (See reaction below).



It can also form from ultramafic rocks such as Serpentine, Amphibole, Pyroxene, and Olivine (See reaction below).



A third way Talc can form is by modification of aluminosilicate rocks (See reaction below). The ratio of Kyanite to Talc formed depends on the concentration of aluminum. Higher aluminum content favors the production of Kyanite over Talc.



Differences in the metamorphic conditions can also affect Talc texture. Talc may be non-foliated. In a non-foliated specimen, crystals are randomly arranged, resulting in a fine-grained, massive appearance (See image 4). In foliated Talc, the crystals align in a specific direction, giving the sample a slightly layered look (See image 2). A rarer form of Talc is referred to as Schistose Talc. In the latter form, Talc has a very definite layered texture.

DISTRIBUTION:

Talc is found worldwide and is mainly associated with ultramafic metamorphic rock deposits. India and China are the leading producers of Talc closely followed by Brazil, France, and the USA. Talc is widely found across the USA. In the eastern USA, deposits and mining can be found along the Appalachian Mountain range from Vermont to Alabama. Interestingly, Talc is the state mineral for Vermont! In the western USA, key deposits and mining are found in California, Montana, Nevada, Washington, and Wyoming.

In North Carolina, Talc is mainly found in the Mountain and Piedmont regions. Heavy concentrations are associated with the Murphy Marble Belt in Cherokee and Swain County. Interestingly, Western NC also has deposits of Serpentine and Kyanite, two minerals often associated with Talc formation.

USES:

Talc has been utilized throughout history. Ancient cultures commonly carved Soapstone/Steatite into practical objects such as bowls, vessels, storage containers, pipes, fishing weights, and other items (See images 7 -10 and 14). In North America, Native Americans learned to add materials such as crushed seashells, bones, or Steatite to help temper the clay for their pottery (See images 7, 8). They also made use of Soapstone for art and ornamental purposes. Even today, Soapstone is carved into figurines, statues, jewelry, and other decorative pieces (See image 11).



IMAGE 7: A nicely finished bowl carved from Steatite, found in Georgia, from the collection of Gary Davis.

<https://peachstatearchaeologicalsociety.org/artifact-identification/pottery/steatite-vessels/>



IMAGE 8: Native American pottery sherds from Burke County, NC. The piece on the far left is turned to show what would have been the inner surface of the vessel. Note the shiny fragments of Steatite mixed in with the clay. Photo by Tracie J.



IMAGE 9: A Soapstone pipe carved and polished into the shape of a bird.
An old sticker label reads "Cherokee 1625-1835 Steatite stone".

<https://www.bidsquare.com/online-auctions/millea-bros/old-cherokee-steatite-stone-bird-effigy-pipe-2024888>



IMAGE 10: A carved Bronze Age Steatite seal, circa 2000-1700 BC. 6 x 5 x 2 cm

<https://www.orientalartauctions.com/object/art600700-steatite-seal-circa-2000-1700-bc>



IMAGE 11: These carved Soapstone animals came from Nigeria. In many countries, carved Soapstone pieces are souvenirs for tourists. Photo by Tracie J.

Earlier in the article the concept of Talc 'purity' was introduced. So, what is meant by the 'purity' of Talc? When mined, processed, and used in various industries, Talc is graded based on its' color, impurities (such as asbestos and heavy metals), particle size, consistency when powdered, and many other factors. The three main categories of Talc are pharmaceutical, cosmetic, and industrial grade. These grades determine what products Talc can or cannot be used to manufacture.

Overall, Talc has many unique properties. It is heat resistant, non-conductive, non-magnetic, and chemically inert. This makes it a versatile mineral used to make: ceramics, rubber, paint, paper, cosmetics, pharmaceuticals, lubricants, detergent powder, sinks, laboratory tables, and many more products (See image 12). It can even be used as a building material and is often used in fireplaces due to its heat resistance (See image 4).



IMAGE 12: An example of products that use powdered Talc.

<https://www.nytimes.com/2018/12/14/business/talc-asbestos-powder-facts.html>

ASSOCIATION WITH ASBESTOS:

Talc is familiar to many people because of its softness. However, more people may know about Talc because of the class action lawsuit against Johnson and Johnson. For many years, the corporation sold Talc-based hygiene products contaminated with asbestos. The use of these products has been linked to mesothelioma, ovarian cancer, and lung cancer. Yet, Talc is still being used in many products, are they safe? As a pure mineral, Talc does not contain asbestos (See resource 3). However, some Talc deposits may contain impurities such as asbestos and heavy metals that get crushed and mixed with the talcum powder. In the US, most deposits that contain asbestos are located along the Appalachian Mountains. (See image 13). The Regal Mine near Murphy, North Carolina, was named in the lawsuit against Johnson and Johnson as one of their source mines that contained asbestos. Today, mines do extensive testing to ensure their Talc is asbestos-free and safe. However, many people avoid Talc-based cosmetics, hygiene products, and food products out of an abundance of caution.



Image 13: A piece of serpentine asbestos collected from the Day Book Dunite Quarry in North Carolina. Notice the fine asbestos fibers breaking off the sample. Microscopic asbestos fibers break off and, if breathed into the lungs they may cause cancer. Samples like this should be stored in airtight containers. Photo by Tracie J.

INTERESTING SIDE NOTE:

Have you ever heard of the Judaculla Rock? It is a large soapstone boulder, about 22 square meters (240 sq ft), near Cullowhee, NC. The rock is covered in ancient carvings and petroglyphs (See image 14). The petroglyphs and figures are components of Cherokee legends. Also, the rock and nearby Soapstone deposits were mined by Native Americans to make bowls, pipes, and other objects. Unfortunately, the stone is not covered and protected from natural elements. Therefore, many of the petroglyphs and figures have faded. There has also been some vandalism to the stone. In 2010, a protective boardwalk and viewing platform were built to help preserve the rock. To learn more, open some of the links below!

<https://northcarolinahistory.org/encyclopedia/judaculla-rock/>

<https://www.youtube.com/watch?v=FoPpywZp0XQ>

<https://www.appalachianhistory.net/2019/09/judaculla-rock.html>



IMAGE 14: Above is an old picture, circa 1930, of the Judaculla Rock. Notice the boulder is in a cornfield. The carved petroglyphs and figures have been filled with a white substance, probably flour, to make them more visible.

Photo from the Department of Conservation and Development, Travel Information Division Photograph Collection, Courtesy of the State Archives of North Carolina.

RESOURCES:

1. <https://www.usgs.gov/centers/national-minerals-information-center/talc-and-pyrophyllite-statistics-and-information#:~:text=The%20mineral%20talc%20is%20a,purity%2C%20softness%2C%20and%20whiteness.>
2. https://ibm.gov.in/writereaddata/files/08172015173718Talc_Soapstone_Steatite.pdf
3. <https://cstem.charlotte.edu/wp-content/uploads/sites/267/2023/05/Courtney-Hardy-The-Presence-of-Asbestos-in-Talc.pdf>

WHAT'S HAPPENING IN OUR AREA

WHAT	WHEN	WHERE
Treasures of the Earth	April 25 – 27 th Friday: Noon-6 Sat/Sun: 10 - 5	Richmond International Raceway Address: 600 E Laburnum Ave Richmond, VA 23222 Website: http://treasuresoftheearth.com/
Georgia Mineral Society's Gem and Mineral Show	May 9 – 11 th Fri/Sat: 10 – 6 Sun.: 10 - 5	Cobb Civic Center Address: 548 South Marietta Pkwy Marietta, GA 30060 Website: http://www.gaminerall.org/
Franklin Gem and Mineral Show	May 9 – 11 th Fri/Sat: 10 - 6 Sun. :10 - 4	Carpenter Community Center Address: 1288 Georgia Road (Rt. 441) Franklin, NC Website: http://fgmm.org/
G & LW Wholesale Gem Show	May 16 -18 th Th/Fri/Sat : 10 – 6 Sunday :10 - 3	Watauga Festival Center Address: 6295 Sylva Road Franklin, NC

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Club Meetings

**2nd Tuesday of Month, 7:00PM
St Aloysius Catholic Church
921 2nd Street NE Hickory, NC**

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