

TAR HEEL



ROCKHOUND

FEBRUARY 2025

Catawba Valley Gem & Mineral Club, Inc.

2025 Officers and Committees

President:	Tracie Jeffries 828-430-1341	Education:	George Max 828-328-9107
Vice President:	Joan Glover 828-446-7633	Show Chairman:	Dean Russell 828-303-1448
Treasurer:	Terry Russell 828-303-1563	Scholarship:	George Max 828-328-9107
Secretary:	Dean Russell 828-303-1448	Field Trip:	Tina Lakhotia 727-688-1068
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 2<sup>nd</sup> 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>

Editor: Tracie Jeffries,  
 3118 Barus Street, Valdese, NC  
 botanynerd89@gmail.com

**INSIDE**

President's Report .....	2
January Minutes .....	2 - 3
February Program .....	3
Grab Bag Workday .....	3
Gem and Mineral Show.....	4 - 5
Geology Made Simple:	
Conglomerate and Breccia.....	5 - 14
What's Happening in Our Area .....	14 - 15
Exhibit Case Application.....	16
Membership Renewal and Form .....	17- 18

## **PRESIDENT'S REPORT**

Hello Fellow Members,

I hope everyone is staying warm during these cold winter days. I find that it is a perfect time to work on my rock collection. I have been busy cleaning, sorting, and labeling samples that I either found, bought, or traded for last year (I got a little behind). I also like to do research and learn more about my specimens. To me the specimens are more interesting and meaningful if I know when, where, and how they were formed, their chemical make-up, their unique properties, and so forth. This is also why I enjoy giving programs and writing for the newsletter. I am not a geologist or an expert but it gives me an opportunity to learn more about our fascinating hobby and share it with others!

If anyone else is interested in writing articles for the newsletter please let me know. I have been impressed with the wide range and depth of knowledge many of our members have about rocks, minerals, fossils, and the lapidary arts. I would enjoy learning from them and I am sure others would too!

### **CVGMC MINUTES FOR JANUARY 14, 2025**

The January 14, 2025 meeting of the CVGMC was called to order by President Tracie J. at 7:00 PM.

Visitors – Ashley S.

Program: CVGMC Bragging Rights by Rick G., et al

Best Collected 2024 – Dean R.

Best Crafted 2024 – Tracie J.

Best Purchased 2024 – Keith P.

Minutes: None from December 2024

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 both the Catawba Room and the Multipurpose

Sports Venue for the Show and the AMFS and the EFMLS Conventions.

2. Please consider where you can volunteer to help with the show.

3. Grab bags will be fill on February 15, 2025 at St. Andrews
4. Theme of the Show is "All in the Family"
5. Contact Tracie J. about having a display case.
6. The Show is dedicated to Larry Huffman.

Field Trip Report: None

Old Business: None

New Business: None

Announcements:

1. CVGMC needs volunteers for a Scout Camporee event on Saturday, May 3, 2025.
2. Steve P. wife has some medical issues she is dealing with.
3. Make sure you send in your membership forms and dues.

Closing of Business: The meeting was adjourned at 8:11 PM

Respectfully submitted,

Dean Russell, Secretary

### **FEBRUARY PROGRAM**

The program for February will be a presentation on sandstones by Tracie J.. Sandstones are often under appreciated by rockhounds but they are interesting rocks. Sandstones can give us a window into the past with respect to ancient environments, climate, flora, and fauna. They also form remarkable and important land features around the world and even help us various industries. Come and learn more about the fascinating sandstones!

### **GRAB BAG WORKDAY**

We will pack grab bags for the show on **Saturday, February the 15th** from **8:00 AM to 12:00 AM**. Meet at the **St. Andrew's Lutheran Church 629 Eighth Street NE**, on the Lenoir Rhyne Campus. 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. I know we did not have a lot of time to recollect since our last show, but we will make as many bags as we can. Even if you don't have material, you can still come to help and join the fun!

## GEM AND MINERAL SHOW - HOW CAN YOU HELP?

### **Ticket Sells:**

The March 2025 Gem and Mineral Show will be here before you know it and one of the areas we need volunteers for is with ticket sales and grab bags. Terry Russell is soliciting volunteers NOW to help sell tickets at the front tables. The ideal number of people per shift is three (2 for ticket sales and 1 for grab bags), however, if we have four per shift it gives us more flexibility. Each shift is 3 hours long. Terry would like to have the work schedule finalized by the March meeting so she has time to communicate the process to everyone. PLEASE CONSIDER VOLUNTEERING – we had several new volunteers at the October 2024 and it was a great way for new and returning members to get involved and get to know other club members. Terry will have a signup sheet at the February meeting.

We will need people to fill in time slots on:

- Friday March 28<sup>th</sup> from 10:00 am to 6:00 pm
- Saturday March 29<sup>th</sup> from 10:00 am to 6:00 pm
- Sunday March 30<sup>th</sup> from 10:00 am to 5:00 pm

**Selling Grab Bags:** We also need people to sign up and sell grab-bags the same times and days as above. Terry R. will have a sign-up sheet at the Feb. and March meetings.

**Show Cases:** If you plan on doing a show case please fill out the form supplied in this newsletter. Remember the theme this year is “All In The family”. The idea is that each case will highlight a specific group of minerals. For example, cases will focus on and display the different types/varieties/groups of garnets, or tourmaline, quartz, calcite, feldspar, mica, beryl, hematite, etc..

**Demonstrations:** We need volunteers to demonstrate lapidary arts such as cabbing, faceting, and wire wrapping especially for Saturday. If you are interested, please see Tracie J.

**Mini Mine :** We need volunteers to help run the mini mine especially on Saturday and if possible, on Sunday. This is a very popular activity with the smaller children. If you are interested, please see Tracie J.

**Kid's Corner:** We would like to run this all three days of the show. It is a favorite of adults and children where they can touch, explore, and ask questions about rocks, minerals, and fossils.. Rick and Joan do a great job but they do need help. If you are interested, please see Tracie J.

**Set up:** We need volunteers to help set up Wednesday March 26th in the afternoon, especially tables and exhibit cases.

**Exhibit Cases:** If you are entering a show case you will be able to come in Thursday March 27<sup>th</sup> afternoon to set your case up.

**Take Down:** What goes up must come down! We need volunteers to help take down tables, exhibit cases, and pack materials for storage on Sunday March 30th in the afternoon.

Thank-you for all you do!

## **GEOLOGY MADE EASY: By Tracie J. CONGLOMERATES AND BRECCIAS**

Conglomerate and breccia are clastic sedimentary rocks. Clasts are smaller fragments of rocks and minerals that have weathered or eroded from larger rocks and minerals. Clasts are classified by their size (See Table 1). These clasts form the sediments that can later form various types of sedimentary rocks such as shale, sandstone, mudstone, conglomerate and breccia.

Conglomerate and breccia are formed by coarser grained clasts; granules, pebbles, cobbles, and even boulders. These clasts may be “well sorted”, meaning all the clasts are similar in size (See Image 11), or they may be “poorly sorted” (See Image 2), meaning the clasts differ greatly in size. You can also describe breccia and conglomerate as being “oligomictic”, consisting of a few different rock and mineral clasts, monomictic (See Image 2) where the rock has only one type of clast, or polymictic (See images 5 and 9) where the stone has a large variety of rock and mineral clasts. Another set of terms you can use to describe these rocks is “grain-supported” and “matrix-supported” (See Image 2).

In a grain-supported stone the clasts are in contact with each other (See Image 9). In a matrix-supported stone the clasts do not touch each other and are surrounded by the matrix (See Images 2 and 11).

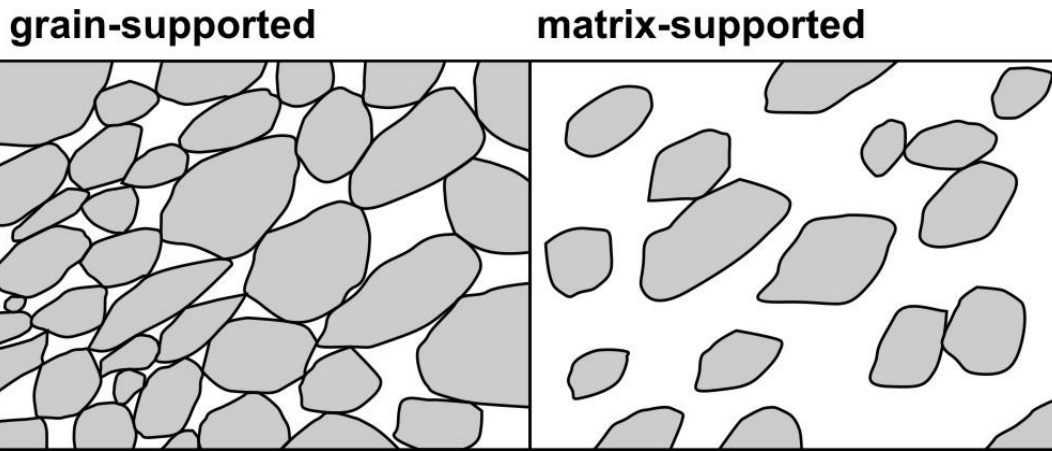


Image 1: Image of grain-supported versus matrix-supported.

<https://geologyistheway.com/sedimentary/packing/>

The fine grained material that holds the clasts together is called the matrix.. The matrix is composed of two components. Part of the matrix are smaller clasts such as sand and silt. The second component consists of dissolved minerals/elements such as silica, calcite, or hematite, that cement everything together (See Images 3, 4, 5, 8, 9, and 12).

Phi units*	Size	Wentworth size class	Sediment/rock name
-8	256 mm	Boulders	Sediment: GRAVEL  Rock RUDITES: (conglomerates, breccias)
-6	64 mm	Cobbles	
-2	4 mm	Pebbles	
-1	2 mm	Granules	
0	1 mm	Very coarse sand	Sediment: SAND  Rocks: SANDSTONES (arenites, wackes)
1	0.5 mm	Coarse sand	
2	0.25 mm	Medium sand	
3	0.125 mm	Fine sand	
4	0.0625 mm	Very fine sand	Sediment: MUD  Rocks: LUTITES (mudrocks)
8	0.0039 mm	Silt	
		Clay	

\*Udden-Wentworth scale.

TABLE 1: Udden-Wentworth Scale showing the classification of clasts by size.

<https://opentextbc.ca/physicalgeologyh5p/chapter/weathering-and-erosion-produce-sediments/>

## BRECCIA

Breccia rocks have angular clasts that are cemented into a fine grained matrix (See Images 2 -7). These clasts are usually pebble sized but can be larger. Clasts that form breccia have not been transported far from their original source. Hence, they are angular because they have not been worn down and rounded by various means of transport such as water. Clasts that form breccias can be formed by various processes such as volcanic explosions (See Image 3), landslides, fault/tectonic activity, and even meteorite impacts.



IMAGE 2: This is a nice classic example of a breccia. Notice the large angular clasts (white) and the fine grained matrix (yellowish-tan). You could also describe this stone as poorly sorted (clasts are variable in size), monomictic (all the clasts are the same material), and matrix-supported (the clasts don't touch each other). Rush Creek District, Arkansas

Photo taken by James St. John



IMAGE 3: Here is an example of a volcanic breccia collected near the Cady Mountains, Mojave Desert region in California. These rocks are also classified as volcanic tuffs. This is a rhyolite tuff (pink matrix) with clasts of pumice (light colored clasts) and other materials.

<https://gotbooks.miracosta.edu/rocks/igneous%20rocks/41.html>

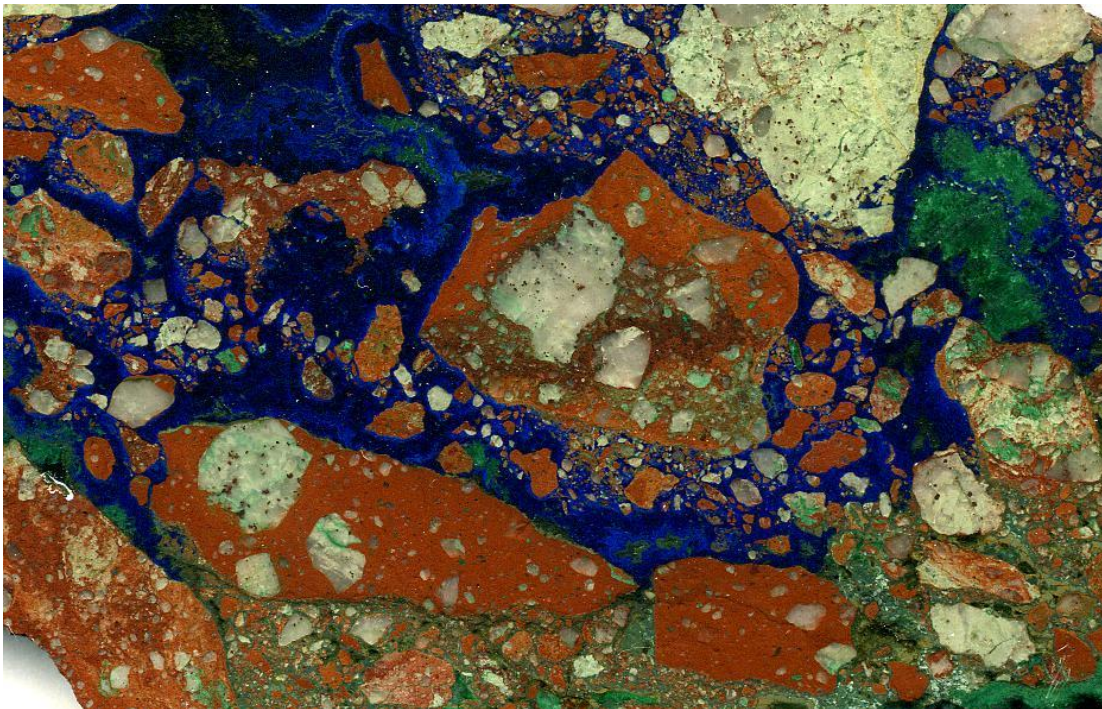


IMAGE 4: A stunning and unusual breccia cemented by azurite and malachite from the Morenci copper mine in Arizona.

[https://en.wikipedia.org/wiki/Breccia#/media/File:Azurite-Malachite\\_Breccia.jpg](https://en.wikipedia.org/wiki/Breccia#/media/File:Azurite-Malachite_Breccia.jpg)



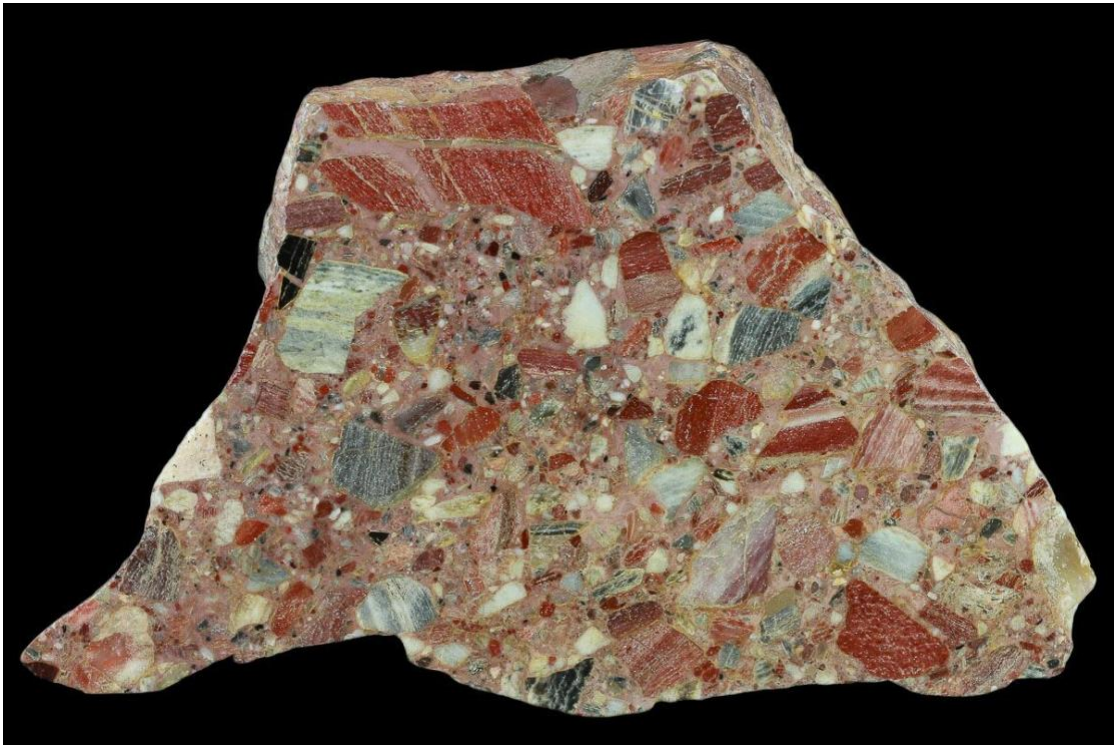


IMAGE 5: This is a Chert Breccia slab from the Pinyalling Hills in Australia. Note the large variety of clasts making this an excellent example of a polymictic breccia!

<https://www.fossilera.com/minerals/7-polished-chert-breccia-slab-western-australia>

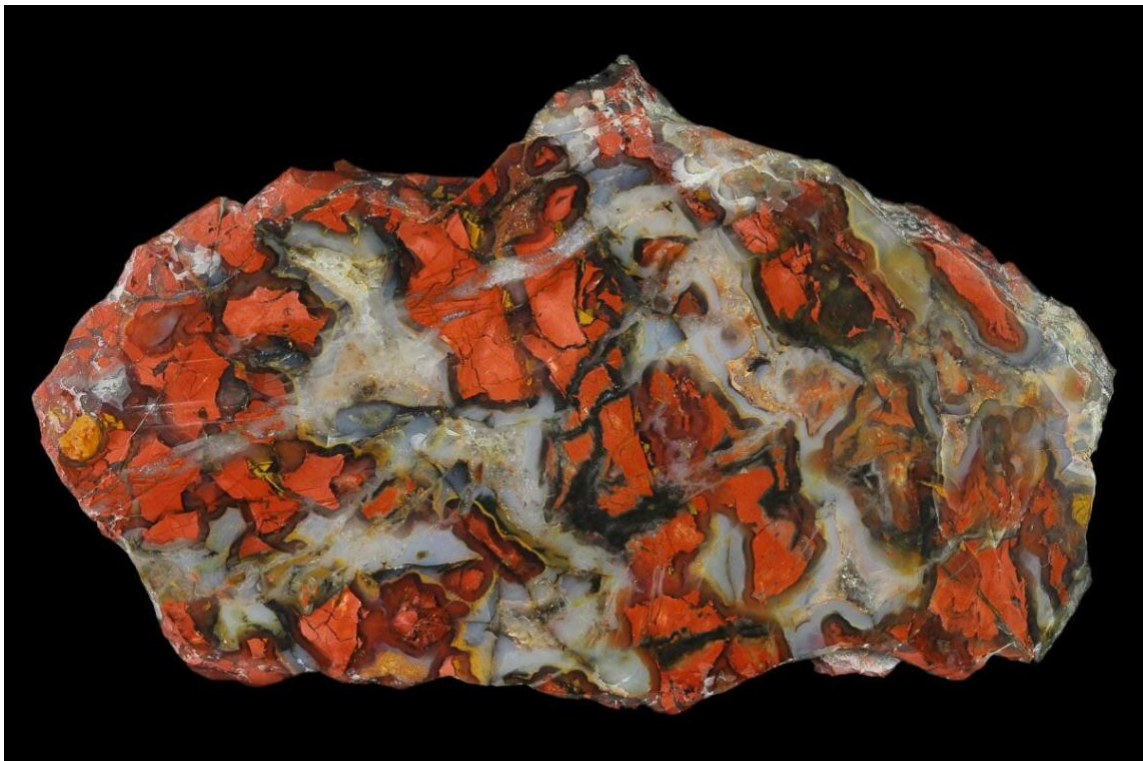


IMAGE 6: Here is a slab of Red Jasper Breccia from South Africa.



IMAGE 7: A beautiful Chert Breccia cabochon.

<https://www.ebay.com/itm/144585240427>

## CONGLOMERATE

Conglomerate is made up of rounded clasts (See Images 8 -12). These clasts have been transported long distances from their origin, usually by streams and therefore are sub-rounded to rounded in shape. These clasts may also be rounded by wave action on beaches. Most conglomerate clasts are pebble to cobble sized. Because these clasts are transported and worn round they tend to be made up of harder rocks and minerals such as quartz and granite. Softer clasts such as pumice would be worn away during transport.

One special type of conglomerate is referred to as ‘puddingstone’. This term is used more commonly in Great Britain where the stones were once believed to ward off evil. People would carry pieces in their pockets and larger pieces were often incorporated into foundations, steps, and walls of buildings. A puddingstone has a matrix significantly different in color from the pebbles/cobbles in the stone (See Images 10 and 11). The contrast between the clasts and the matrix are striking!

There is a famous puddingstone boulder on the University of Michigan’s campus. In 1862 Dr. Winchell, a professor of geology, had the stone moved onto campus where it has resided ever since. Machines maneuvered the boulder onto a special trailer and it took 4

horses and 4 oxen to pull the boulder to the campus! Unfortunately, I could not find a clear picture of this infamous boulder. But Michigan is also known for other puddingstones. Many people will walk the shores of Lake Michigan looking for red agate puddingstones (See Image 11) and other rocks. Field trip?

Another term you may encounter is 'metaconglomerate'. A metaconglomerate is a conglomerate modified by metamorphic processes (heat and pressure). It will look like a regular sedimentary conglomerate but the clasts will be elongated, usually oriented in the same direction, and the rock will be much harder than its sedimentary counterpart (See Image12). There are large areas of metaconglomerate on Grandfather Mountain and boulders of metaconglomerate along the roadside near Banner Elk.

The world around us is amazing even the rocks underneath our feet. Hopefully, you can now differentiate between breccia and conglomerate!



IMAGE 8: Here is a good example of a basic conglomerate. It is a quartz pebble conglomerate with a silica based cement/matrix. Note the nice rounded quartz pebbles. Photo by James St John



Image 9: Here is a Travertine-cemented conglomerate. This could be further described as polymictic (made up of many different clasts) and clast-supported (the clasts are touching each other). <https://www.flickr.com/photos/47445767@N05/50983347927/>



IMAGE 10: Here is a large outcropping of conglomerate on Schunemunk mountain in Orange Co., New York. This could be considered pudding stone with the purplish-red matrix and contrasting white quartz pebbles/cobbles. Photo by Daniel Case



Image 11: Lake Michigan Red Agate Puddingstones showing before and after tumbling! These are matrix-supported and all the clasts are about the same size making it well sorted!

<https://www.freep.com/story/news/local/michigan/2020/01/24/puddingstone-rock-michigan-largest/4540743002/>

# 1634



Image 12: This is striking hematite rich, red jasper metaconglomerate rock from the Pilbara region of Western Australia. Note the elongated clasts mostly oriented in the same direction due to pressure during metamorphism. [https://www.etsy.com/shop/JonesMineralCabinet?ref=shop-header-name&listing\\_id=1739092497&from\\_page=listing](https://www.etsy.com/shop/JonesMineralCabinet?ref=shop-header-name&listing_id=1739092497&from_page=listing)

## WHAT'S HAPPENING IN OUR AREA

### MUSEUMS: AURORA FOSSIL MUSEUM

The Aurora Fossil Museum is located at 400 Main Street, in Aurora, along the NC coast. The museum has fossils from around the world but focuses on fossils found from the local phosphate mine owned by Nutrien Phosphate Mine (formerly known as the Texas Gulf Sulfur, PCS Phosphate, PotashCorp). Years ago, the phosphate mine allowed rockhounds inside to collect fossils but stopped that practice in 2009. But visitors can visit the museum and see the

huge variety of fossils found in the area. Fossils range from microscopic single-celled Foraminifera to giant sharks teeth and whale vertebra. One of the favorite areas of the museum is the ‘Shark Hall’ that show cases sharks teeth especially from the giant Megalodon shark!

Across the road from the museum is their Fossil Park nicknamed the “Pits of the Pungo”. The pits contain material donated by the phosphate mine and visitors are free to hunt for fossils.

The entry is free for the museum, park, and fossil pits, but all donations are welcomed. The museum also has a gift shop where you can buy merchandise to help support the museum and it’s educational out reaches.

Just remember that if the museum is closed so is the park and the fossil pits across the road from the museum.

Make sure you check the web site before visiting. The days and hours that the museum is open changes through-out the seasons. The Museum also hosts an annual Fossil Festival held on Memorial Day weekend.

[info@aurorafossilmuseum.org](mailto:info@aurorafossilmuseum.org)

<b>WHAT</b>	<b>WHEN</b>	<b>WHERE</b>
Fossil Fair	February 22 Hours: 9:00 - 5:00	Schiele Museum of Natural History Address: 1500 E Garrison Blvd., Gastonia
Gastonia Gem and Mineral Club’s 46 <sup>th</sup> Annual Gem, Mineral, and Jewelry Show	March 15 – 16 <sup>th</sup> Sat 10:00-6:00 Sun 10:00-4:00	Gastonia, NC Gastonia Farmers Market 410 E Long Ave., Gastonia
Catawba Valley Gem, Mineral, Fossil and Jewelry Show	March 28-30 Fri. 10:00 – 6:00 Sat. 10:00 – 6:00 Sun. 10:00 – 5:00	Hickory, NC Hickory Metro Convention Center 1960 13th Ave Drive SE
Annual Show; Tar Heel Gem & Mineral Club	March 28-30 Fri. 3:00 – 7:00 Sat. 10:00 – 6:00 Sun. 10:00 – 5:00	Raleigh, NC Kerr Scott Building, NC Fairgrounds, 4285 Trinity Rd, Gate 9

**EXHIBIT APPLICATION**  
**UNIFORM GEM, MINERAL, AND JEWELRY SHOW**  
**HICKORY METRO CONVENTION CENTER**

Exhibits of minerals, fossils or gemstones are one way we can help to educate ourselves and the general public about our hobby. That is one of the main purposes of the Club. Hopefully many of you will choose to participate in this joint activity. To encourage this, the club awards five trophy plaques each year. Check your first choice category for judging.

MOST BEAUTIFUL  BEST FIRST TIME EXHIBIT  MOST INTERESTING  
 BEST GUEST EXHIBIT  MOST EDUCATIONAL

Please fill out this form and return it by March 11th to Exhibits Chair, Catawba Valley Gem & Mineral Club, P.O. Box 2521, Hickory, NC, 28603-2521 OR to Tracie Jeffries, botanynerd89@gmail.com

DESCRIPTION OF EXHIBIT:

SELECT YOUR CASE REQUIREMENTS:

I will furnish a case of the following dimensions: W \_\_\_\_\_ D \_\_\_\_\_ H \_\_\_\_\_

I will need a club case. Please check preference:

Regular 40" W X 19" D X 22" H  Larger 48" W X 24" D X 24" H

I need a case with risers.

The exhibit should be set up by Thursday, March 27th between 4PM and 9PM, and removed at the end of the show at 5 PM, Sunday, March 30th. If you are unable to meet this schedule, please contact the Exhibits Chair about making other arrangements.

**SECURITY AND LIABILITY:**

Professional security will be provided around the clock, beginning at 4PM on Thursday and ending at 7PM on Sunday. The Catawba Valley Gem & Mineral Club will take all reasonable precautions to protect property and person of each exhibitor, however, it is mutually agreed that Catawba Valley Gem & Mineral Club, Inc, or its members shall not be liable for any damage to or the loss of any exhibit. This includes the property of the exhibitor or injury to his/her person resulting from any cause. All claims for any such damage, loss or injury are expressly waived by the exhibitor. Submission of the signed application for exhibitor's space constitutes acceptance of ALL the rules and regulations as outlined herein and releases the Catawba Valley Gem & Mineral Club, Inc., or its members from all liability as outlined above.

**Signature of Exhibitor: Date:**



## 2025 MEMBERSHIP DUES

Included in this month's bulletin is a blank 2025 Membership form. Terry will also bring some blank 2025 Membership forms to the January meeting.

This membership form must accompany your dues in order for your name to be included on the 2025 club roster.

Family membership is \$25

Single membership is \$18

Please print **clearly and legibly** on the form so that your information can be updated accurately.

**Honorary members must also fill out the form each year in order to keep the club records up to date and to maintain your honorary membership status.**

You can send your payment and form to the Club PO Box (address on the membership form) or directly to Terry Russell at the following address:

5254 Olde School Drive

Hickory, NC 28602



**2025 MEMBERSHIP INFORMATION FORM**

Date: \_\_\_\_\_

Please Check all the Appropriate Boxes

New Member  Renewal

(New members must attend TWO meetings and may apply for membership at the second meeting)

Single \$18/yr  Family \$25/yr  Honorary \$0/yr  
\*\*  Onetime fee for name badge \$10/person  Quantity

\*\* Spelling on badges ONLY IF PURCHASING any:

\_\_\_\_\_

**PLEASE PRINT CLEARLY & FILL IN ALL INFORMATION**

NAME: \_\_\_\_\_

SPOUSE'S NAME (family membership): \_\_\_\_\_

ADDRESS (Street): \_\_\_\_\_

ADDRESS (City, State, and Zip Code): \_\_\_\_\_

MINOR CHILD (family membership): \_\_\_\_\_ Age \_\_\_\_\_

MINOR CHILD (family membership): \_\_\_\_\_ Age \_\_\_\_\_

HOME PHONE: \_\_\_\_\_ CELL PHONE: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_

\*\*\* Bulletins will be distributed by E-MAIL only \*\*\*

**MAKE CHECKS PAYABLE TO: CATAWBA VALLEY GEM & MINERAL CLUB, INC.**  
MAIL TO: Catawba Valley Gem & Mineral Club, Inc  
c/o Terry Russell  
PO Box 2521  
Hickory, NC 28603-2521

DUES (NEW MEMBERS ONLY) SHALL BE PRORATED AS FOLLOWS:

January 1 – June 30: full amount of annual dues

July 1 – September 30: 50% of annual dues

October 1 – December 31: full amount of annual dues shall apply as payment for the following year

**FOR USE BY TREASURER ONLY: Amt Rec'd \_\_\_\_\_ Check # \_\_\_\_\_ Date \_\_\_\_\_**

**Tar Heel Rockhound  
Official Publication of  
Catawba Valley Gem and  
Mineral Club, Inc.  
Volume 55 Number 2**

**Club Meetings  
2<sup>nd</sup> Tuesday of Month, 7:00PM  
St Aloysius Catholic Church  
921 2<sup>nd</sup> Street NE Hickory, NC**

Tar Heel Rockhound  
Tracie Jeffries Editor  
PO BOX 2521  
Hickory NC 28603-2521  
<http://www.cvgmc.com/>

