

TAR HEEL



ROCKHOUND

DECEMBER 2024

Catawba Valley Gem & Mineral Club, Inc.

2024 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 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>

Editor: Tracie Jeffries,
 3118 Barus Street, Valdese, NC
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PRESIDENT'S REPORT

Hello Fellow Members,

It is hard to believe that another year has passed! I have enjoyed being your president and newsletter editor this past year. But I will admit there was a definite learning curve and at times I was frustrated. Thank-you all for your help and patience! But there is no rest for the weary! We will need to hit the ground running in January. Our March show will also be host to a double conference of the American Federation of Gem and Mineral Societies and the Eastern Federation of gem and Mineral Societies! I know we will do a great job, but for now, let's just relax and enjoy the Holidays!

Sincerely,

Tracie J.



HAPPY



HOLIDAYS!



CVGMC MINUTES FOR NOVEMBER 12, 2024

The November 12, 2024 meeting of the CVGMC was called to order by President Tracie J. at 7:00 PM.

Visitors: Scott & Ann J., Kim, Doug, & Rhett F., Krista & Ollie C., Jessica & Briana T.

Program: "Unearthing North Carolina's Mineral Treasures" by Shield Flynn

Minutes: None. CVGMC held its annual picnic in October and a business meeting was not held.

Treasurer: The bank balance was reported. Tentative report on 2024 Show.

Education: CVGMC members did a presentation to BSA

Show: 1) The next CVGMC show will be March 28-30, 2025. More information in the future.

2) We are hosting the AFMS and EFMLS Conventions

3) The Flynn's once again, donated minerals for the children's door prizes.

4) I forgot to mention Jeanne S., who did an amazing job on the advertising for our Facebook site for the show.

Field Trip: None reported.

Old Business: None

New Business: A motion by Harry P., seconded by Becky S., to nominate and elect the officers presented for the 2025 CVGMC year.

*President: Traci Jefferies

Vice President: Joan Glover

Treasurer: Terry Russell

*Secretary: Dean Russell

*Show Chr.: Dean Russell

*Editor: Tracie Jefferies

Past Pres.: Slade Harvin

Director at Large: Rick Glover

Director at Large: Harry Polly

Director at Large: Ben Houston

Director at Large: Keith Padgett

The motion was discussed, voted on and passed by the Club members at the meeting.

*Note: Because Tracie Jefferies and Dean Russell holds two of the voting positions on the Board of Directors, but only has one vote, an additional two Director at Large was voted to the Board to have the required nine voting members of the CVGMC Board of Directors.

Announcements:

- 1) The Annual CVGMC Christmas Party and Live Auction will be held during the December 10th meeting, starting at 6:30pm. Look in the Tar Heel Rockhound for more information.
- 2) Auction information in newsletter.
- 3) Estate sale of Larry Huffman's minerals this Saturday, November 9th from 10:00 am to 4:00 pm at Harry Polly's house. It will be indoors.

The close of the meeting was 8:26 PM.

Respectfully submitted by Dean Russell, CVGMC Secretary

DECEMBER MEETING - ANNUAL CLUB CHRISTMAS PARTY AND AUCTION

The Christmas party and Auction will be held on Tuesday, December 10 at the Club's regular meeting. The meeting will start at 6:30pm instead of the regular time of 7:00pm. The meal will be catered by Publix Deli again this year. Chicken tenders and several side dishes will be provided. All who attend are asked to bring a drink or dessert. The Club will provide the plates, cups, napkins, silverware and ice. Come early, if you can, to help set up the room.

2024 DECEMBER AUCTION INSTRUCTIONS

It's that time of year for our annual auction. Anyone interested in participating in the auction (selling AND/OR buying) needs to have a number assigned to them (1, 2, 3, 4 etc.). If you were not able to attend the November meeting and would like to participate, please call Terry (828-303-1563) to get a number. If you didn't get a number and stickers before the December meeting, they will be available the evening of the auction, however please come early. Terry will be at the church by 5:45pm for anyone who hasn't sign up to participate and needs a number and/or stickers.

All specimens must be clearly identified with a sticker which should be coded with your assigned number because this is what will be used during the auction process. Please label your specimens as follows (using this example): if your assigned number is 2 and you plan to sell 5 items then the stickers should be labeled as 2a, 2b, 2c, 2d and 2e. It is VERY important to label ALL specimens so the correct information is recorded. This same number will also be your bidding number. Terry will have bidder cards at the meeting with the numbers on them for people to hold up when they are bidding. This process should keep things moving and will make it easier to record the sellers and buyers. Please also include a description of the item.

Items will be auctioned off in order to make it fair for everyone. It will go as follows: 1a, 2a, 3a...etc., then start over at 1b, 2b, 3b...etc. so label your items in the order that you want to sell them, with your best item being the first one. We will sell as many items as possible in the time that we have (ends at 8:45 PM).

There is no limit to the number of items a Club Member can bring. Anything rock related can be auctioned; this includes tools, cut stones, display boxes/cabinets, rough stones, jewelry, etc. Members will retain 100% of the sale price unless the member specifies all proceeds go to the club.

Please come early to preview the items and make notes (including the number on the sticker) of the ones you are interested in bidding on so that you'll be ready when the item comes up for bidding. To keep things moving the items will not be walked around during the auction. Items will go up in price by \$1.00 increments per bid until it reaches \$25.00, then bidding will go up by \$5.00 increments per bid until it reaches \$50.00. Once it reaches \$50.00, bids will go up by \$10.00 increments per bid. Once the bid reaches \$100.00, bids will go up by \$20.00 increments per bid. Bidding increments can change at the discretion of the auctioneer. If you have an item that you want started at a minimum bid, please note it on the label ahead of time.

Remember, guests are welcome, so feel free to bring a friend. They can bid on items, BUT cannot sell items.

Payment method: Only cash or checks accepted, no plastic (credit cards).

GEOLOGY MADE EASY: PYRITE

By Tracie J.

Pyrite is the most common member of the Pyrite Group. This group is made up of metals in the cubic crystal system that are bonded in a very specific pattern to non-metallic elements. They are related by common structures, crystals, and properties (see Table 1). Pyrite is distinguished from the others in the group as iron sulfide, as opposed to copper sulfide (villamaninite) or manganese sulfide (catterite) etc... It may also contain some impurities such as small amounts of gold, copper, and arsenic. Pyrite is often called "fool's gold" because of its density and 'gold' color. Many prospectors have been disappointed and tricked by pyrite, thinking they had found real gold. Even though it was called "fool's gold" prospectors soon learned that pyrite could be an indicator of gold deposits! Gold is much denser, a bright yellow color, and is very soft (see Image 1). Gold is very malleable and when

hammered it and will flatten. Pyrite is brittle and if hammered it will crumble/break and become powder. Pyrite can also be confused with chalcopyrite (see Table 2). Distinguishing pyrite from chalcopyrite may be more difficult. Both are similar in color and both will tarnish making color a less reliable trait. However, chalcopyrite is much softer than pyrite and a hardness test should easily distinguish between the two!

Mineral and Composition	Hardness	Specific Gravity	Cleavage	Streak	Luster	Other
Pyrite FeS ₂	6 - 6.5	5.01	Poor to indistinct	Greenish – black to brownish-black	Metallic	Color brassy yellow, opaque
Cattierite CoS ₂	4	4.82	Perfect		Metallic	Color pink to grayish white, opaque
Hauerite MnS ₂	4	3.44	Perfect	Brownish-red	Metallic	Color red-brown to black, opaque
Laurite RuS ₂	7.5	6.23	Perfect	Gray	Metallic	Color black, opaque
Villamanánite CuS ₂	4.5	4.5	Perfect	Black	Metallic	Color iron black, opaque

TABLE 1: Summary and comparison of Pyrite to some other representatives from the Pyrite Group of minerals.

Mineral and Composition	Hardness	Specific Gravity	Streak	Luster	Other
Pyrite FeS ₂	6 - 6.5	5.01	Greenish – black to brownish-black	Metallic	Color brassy yellow, opaque Brittle – will break when hammered
Gold Au	2.5 - 3	15 - 19.3	Golden yellow	Metallic	Color bright yellow, opaque Malleable – will flatten when hammered
Chalcopyrite CuFeS ₂	3.5 - 4	4.1 – 4.3	Greenish - black	Metallic	Brassy to golden yellow, opaque Brittle – will break when hammered

TABLE 2: Comparison of Pyrite to Gold and Chalcopyrite

Color, luster and Appearance of Gold and Pyrite



IMAGE 1: Gold is a bright yellow in color compared to pyrites brassy yellow color.

You can also compare density, streak, and hardness.

<https://www.geologyin.com/2024/09/pyrite-vs-gold-identifying-methods.html>

Pyrite is a favorite of collectors because of its bright metallic appearance and it can be found in many growth habits. Pyrite can be massive, reniform, botryoidal, stalactitic, and nodular. It can also form concretions and radiating disks known as 'Pyrite suns' (see Images 2 and 3). Pyrite can also be a replacement mineral in the fossilization process creating many unique and spectacular pyritized fossils (see Image 4). It forms a variety of crystal shapes with in the isometric (cubic) crystal system. It most commonly forms cubes, octahedrons, and pyritohedrons (see Images 5-8). The crystal faces may be smooth or striated.



IMAGE 2: "Pyrite suns are brilliant, disk shaped concretions of radiating pyrite crystals found in the coal mines near Sparta, Illinois."

<https://www.etsy.com/listing/1649540518/pyrite-sun-rare-limited-stock-140-gram>



IMAGE 3: Pyrite Concretion From Dongchuan District, Yunnan Province, China The pyrite crystals form concentric "rings" on shale.

https://astrogallery.com/products/pyrite-concretion-boji-stone-from-dongchuan-district-kunming-prefecture-yunnan-province-china-1-85-lbs-1?_pos=71&_sid=c58b0831d&_ss=r



IMAGE 4: An amazing example of a pyritized fossil. In this case a pyritized ammonite fossil from the coast of Charmouth, Dorset UK.

<https://jurassiccoastfossils.com/collections/pyrite-ammonites/products/large-cruciloboceras-pyrite-ammonite-30-mm-1>

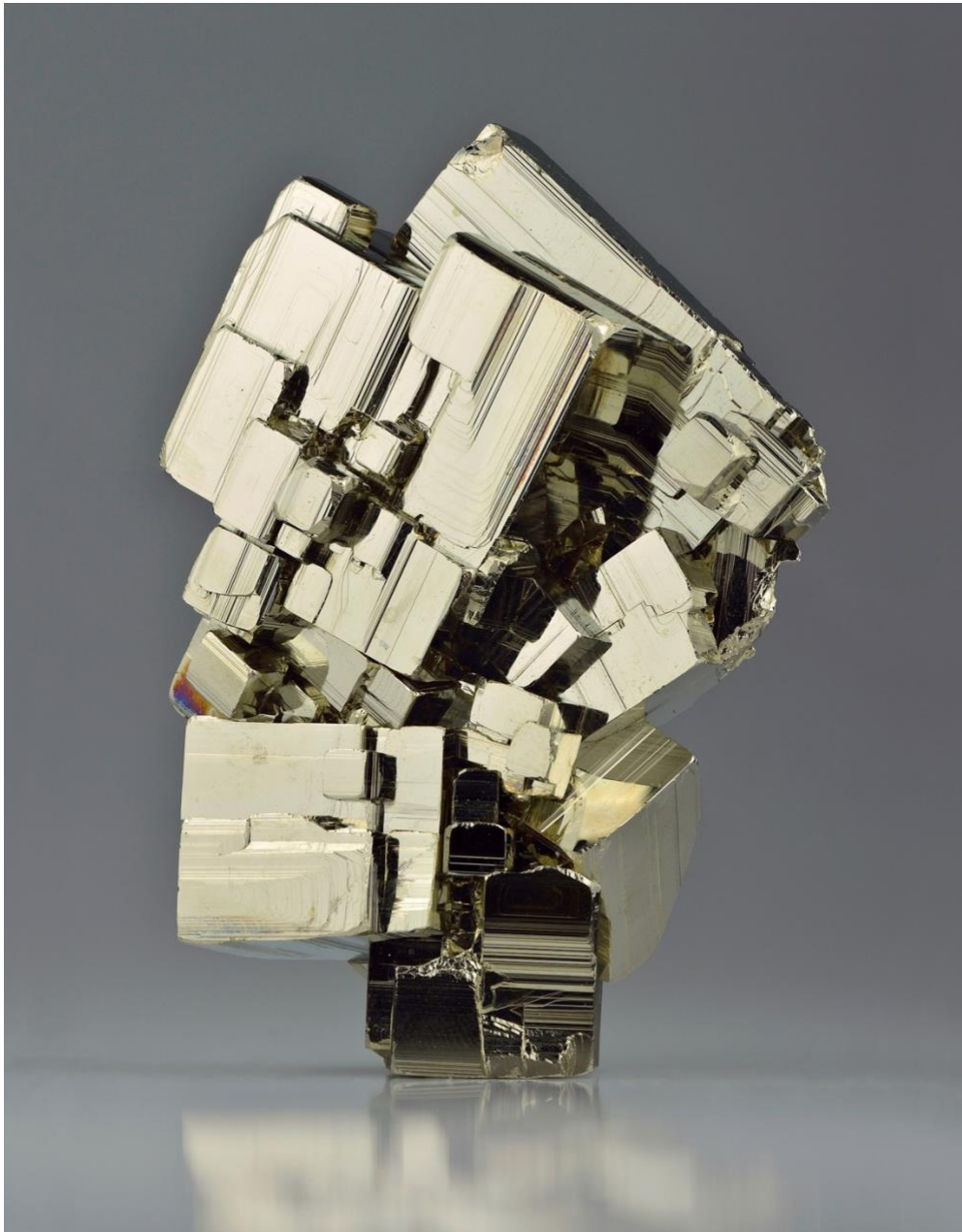


IMAGE 5: Cubic crystals of pyrite (7.0 × 5.0 × 2.5 cm).

Found from Huanzala Mine, Peru, Note the striations on the crystal faces!

https://en.wikipedia.org/wiki/Pyrite#/media/File:Pyrite_-_Huanzala_mine,_Huallanca,_Bolognesi,_Ancash,_Peru.jpg



IMAGE 6: Classic Pyrite Cube on Basalt from Navajún, La Rioja Province, Spain (1.1 lbs)

<https://astrogallery.com/products/pyrite-cube-on-basalt-from-navajun-la-rioja-province-spain-1-lbs>



IMAGE 7: A pyritohedron has 12 faces, each an irregular pentagon. It is named after pyrite, which characteristically has this crystal form. <https://zh.mindat.org/glossary/pyritohedron>



IMAGE 8: Beautiful cluster of pyrite octahedral crystals from the Huanzala Mine, Peru.
<https://www.weinrichmineralsinc.com/products/pyrite-9501548.php>

Pyrite is associated with igneous, metamorphic, and sedimentary rocks. In igneous rocks it can be found in veins deposits of quartz and other sulfide minerals. In sedimentary rocks it is often found in coal deposits, shale, and limestone. It is often found in associated with other minerals such as galena, sphalerite, gold, calcite, barite, quartz, fluorite, chalcopyrite and many others.

Pyrite was considered worthless by prospectors but it does have value and is used in several areas. The word pyrite is derived from the Greek 'pur' which means fire. Pyrite will create a spark when struck, similar to flint. In fact, it was used in many early firearms to create sparks and ignite the gunpowder! Early human cultures also knew of this fire making property and pyrite fire starters have been found in many archeological sites. Pyrite has been and still is used in jewelry and to make decorative items. Once pyrite was used to produce fertilizer, sulfuric acid, and detergents. It was also once heavily used in industry to produce iron, steel, fireworks, sparklers, and as a catalyst for certain reactions. Most of these processes used the sulfur extracted from pyrite rich ore. However, today sulfur is mainly obtained as a byproduct of oil and gas processing and there is not as much demand for pyrite.

Pyrite is found worldwide. Several areas of note include the Victoria Mine in Spain where amazing perfect and large cubes are found (see Image 6). The Huanzala Mine of Peru is famous for both fluorite and pyrite specimens. Incredible examples of all three pyrite crystal types, cubic, octahedral, and pyritohedral, come from this mine. (see Images 5 and 8) In the US Sparta, Illinois is famous for its 'Pyrite Suns'. In fact, this unique radial growth form of pyrite is almost exclusive to Illinois! In our own state of North Carolina, pyrite is commonly found most Mountain and Piedmont counties. One well known location is the Glendon Pyrophyllite Mine and Mill in Moore County. The site is famous for many different mineral specimens but nothing is as exciting as pyrite cubes up to six inches or more in size! Unfortunately, this mine is no longer open to the public.

Pyrite is certainly eye catching when fresh and untarnished. But, it is unstable when exposed to oxidizing conditions of oxygen and water (see Figure 1). Over time specimens may oxidize/ tarnish, and darken in color. They may even break down completely, a condition known as 'pyrite rot,' 'pyrite decay', or 'pyrite disease'. There are even sulfate-reducing bacteria that can break pyrite down! Unfortunately, once pyrite rot starts there is no way to stop or reverse the damage. The main enemy is mainly moisture in the form of humidity. I experienced this first hand with a Pyrite Sun I purchased years ago. I kept the specimen in my basement in a cardboard box for years. Later when I started working with my collection again instead of a shiny Pyrite Sun I found a pile of crumbled black fragments and dust. To protect your pyrite specimens, they should be stored in a low humidity environment. You can may seal them in various containers such as glass. There are lots of suggestions on the internet on how to protect your pyrite specimens but many are expensive, may damage the specimen, or simply don't work. Do your research and figure out what works best for you and your collection!

2025 MEMBERSHIP DUES

Please Note: Dues will not be collected during the December meeting due to the auction activity.

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

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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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