TAR HEEL ROCKHOUND

JANUARY 2018

Catawba Valley Gem & Mineral Club, Inc.

2018 Officers and Committees

President:	Harry Polly 828-244-6651	Editor:	Slade Harvin 252-702-7299	Show Chairman:	Dean Russell 828- 303-1448
Vice President:	Rick Glover 828-446-7633	Field Trip:	**OPEN**	Scholarship:	George Max 828-328-9107
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Secretary:	Dean Russell 828- 303-1448				

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; Junior, $6

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.

Photo: S. Harvin Barite on Calcite (Kentucky)

INSIDE

CATAWBA VALLEY GEM & MINERAL CLUB, INC.

http://www.cvgmc.com

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President's Message

By now, all of the holiday festivities are over and I hope everyone had a safe and joyous holiday season. As we look forward to the New Year, I pray that everyone has a very prosperous one, filled with good health and happiness.

As we look forward in the New Year, we have our annual show coming up in March. Be thinking of ways that YOU can help to make this show the best ever. We all have talents that can benefit the show. Let us all use those talents to the fullest.

Harry

Catawba Valley Gem and Mineral Club, Inc.

The December 12, 2017 meeting of the CVGMC was called to order by President Harry Polly at 6:30 PM.

Minutes: Motion by Larry H.., seconded by Rick G.. to accept the minutes for the November 14, 2017 minutes. The motion was passed by the Club membership.

Treasurer Report: Bank balance was not reported because bank statement had not arrived in time for the meeting.

Field Trip Report:

1) Grab Bag packing, 9:00 AM, Saturday, January 13, 2018 at St. Andrews. (Near LR University)
2) The Club **NEEDS** a Field Trip Chairperson.

Education Committee: None.

Show Committee: None.

Old Business: None

New Business: AMFS Scholarship Fund Raffle Tickets available from Larry H.

Closing of Business: The meeting was adjourned at 6:35 PM
Program: Annual Club Auction.

Respectfully Submitted,
Dean Russell, Secretary

January Program – Bragging Contest

This month's program will be the club's Annual Bragging Rock Contest. Bring your rocks to enter them in the following categories: Best Self Collected, Best Purchased, and Best Crafted (Entries must have been from only 2017 and not previous years). Join us for this fun filled evening to enjoy talking rocks and even a chance to brag a little. Members are allowed to make one entry per each category, consisting of one specimen per category.

January Field Trip – Grab Bag Packing

On Saturday, January 13th, at 9:00 AM, the Catawba Valley Gem and Mineral Club will pack grab bags for the upcoming Gem and Mineral Show Grab bags are a popular item at our Gem Show, and we invite and encourage your participation in this project. Depending upon the number of bags, we will finish before noon.

We will be at St. Andrew's Lutheran Church at 629 Eighth St, NE at the edge of Lenoir-Rhyne University. From I-40, drive north up LR Blvd and go under the railroad underpass and turn left at the first stoplight and straight at the next stoplight and then take the first left into the parking lot behind the church educational building. We will work in Fellowship Hall on the bottom floor.

We need a variety of different minerals which are clean and of appropriate size (no larger than a baseball.) Even if you do not have material to donate, we welcome your help. It's a great way to enjoy the activity with other club members while preparing bags that help school children and others learn about gems and minerals. So, if you would like the opportunity to clear out a few rocks and have fun making surprise bags, we look forward to seeing you on Saturday the 13th! Thanks so much.

MEMBERSHIP INFORMATION FORMS

2018 Membership Dues – **DUE IN JANUARY**.

Membership Information Forms can be found on the club's website: http://www.cvgmc.com/.

The membership form must accompany your dues in order for your name to be included on the 2018 club roster and to receive the monthly newsletter.

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.

Please print clearly and legibly on the form so that your information can be updated accurately. The treasurer, Terry Russell, ***will be deleting anyone from the roster who does not renew their membership by the March 2018 meeting.***

The treasurer will accept renewals at the January meeting or you can send your payment and form to the Club PO Box.

January Field Trip

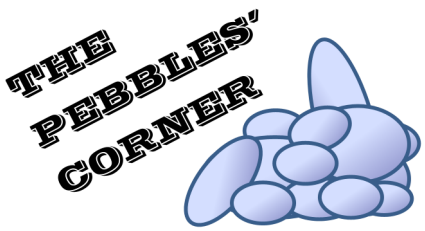
The January Field Trip is the Grab Bag Packing and info is on the previous page.

Also, everyone is asked to please consider taking the Field Trip Coordinator position for the Club.

Program

The January program will be the Club Bragging Contest. Information is on the previous page.

We look forward to seeing everyone.



This section of the newsletter is being started to help generate more interest and interaction with younger rockhounds and to have fun in the process.

I welcome any information a member may wish to provide to be included in the upcoming newsletters each month, especially related to items that would be of interest to our younger and aspiring rockhounds.

Happy New Year! I want to wish everyone a happy and fun-filled year filled with family and rocks.

With the weather being on the colder side this time of year, I encourage you to start planning on some fun trips to take a younger rockhound on an excursion or field trip.

Some activities could be as follows:

- Trip to a museum
- Trip to a local science center
- A walk or hike to look for rocks and other fun items
- Drawing a fun or favorite mineral
- Telling stories of fun or funny things that have happened on a previous trip
- Read a book together
- Play a game together
- Other fun ideas are also available

The most important thing to remember is to have fun!

Photos: Clip Art

Until next time……

Slade

AUCTION PHOTOGRAPHS (Photos by: Joan Glover)

Fluorite (By: Cheryl Neary)

So to continue about our Kentucky story-

Every year the CVGMC ventures to central KY for the beautiful quartz geodes, and for various minerals such as dolomite and a myriad of fossils. This year, as an added bonus, we also collected for one of my favorite minerals, fluorite.

I grew a fondness for fluorite several years ago, while attending an annual EFMLS convention and show hosted by Central Pennsylvania Club at their local Shrine Club. First the club had a field trip to a local college which had a wonderful mineral gallery – with beautiful specimens of fluorite from the state of Pennsylvania. (I believe it may have been Elizabethtown College). Then on Saturday at their show, one of the dealers had numerous pieces of fluorite from Cave-in- Rock located in Illinois. The colors varied from shades of purples, to a beautiful blue and some yellow pieces and many specimens in banded colors. That night, at the banquet, as R.J. Harris past the torch as President of the EFMLS to me, he gave me two gifts – the first, a handful of dentistry tools, because he said to get people to volunteer is similar to pulling teeth ("ain't that the truth!"). The second was a box of Pennsylvania minerals with a beautiful piece of fluorite amongst the collection. He said he watched me as I was so fascinated by the mineral while at the museum! So, there and then, I knew I "needed" to collect this specimen! So when Harry notified us that this year we would be fluorite collecting in KY – well – I was in for the adventure!

So what is fluorite? It is a mineral composed of calcium and fluorine. The chemical formula is CaF_2. It is classified as a halide mineral. A halide mineral is a group of naturally occurring inorganic compounds that are salts. Halides are composed of halogen elements. The six halogen elements are non-metallic, consisting of fluorine (F), chlorine (Cl), bromine (br), iodine (i) astatine (at) and tennessine (Ts). The name halogen is derived from the Greek roots "hal" – *salt* and '"gen" *to produce.* The halogen group of elements is found in the second column from the right side of the periodic table, Group XVII (Seventeen). Halogens have a trait of combining with many different elements, usually with metals and elements from Group I (One) of the periodic table. Fluorine is the most reactive and combines with most elements from the periodic table; however the reactivity decreases as you move down the column on the periodic table. Minerals of the halide class all have relatively low hardness; can be transparent; have good cleavage; have low specific gravities; and are poor conductors of heat and electricity.

Fluorite typically is found in the colors of purple, green and yellow. It can also be colorless, blue, red or black. It can be found banded with a variety of colors. The mineral's colors are produced by the impurities in the mineral. The streak is white and is a 4 on the Moh's hardness scale, with a specific gravity of 3.2, which is higher than most minerals. It is the only common mineral that has four directions of perfect cleavage, often breaking into pieces with the shape of an octahedron. Fluorite is found world-wide.

In 1852, George Gabriel Stokes discovered that fluorite has the ability to produce a blue glow when illuminate with lights. He named the phenomenon fluorescence after the mineral fluorite. Fluorescence in fluorite is thought to be caused when trace amounts of yttrium, europium, samarium, or other elements substitute for calcium in the fluorite mineral structure.

Most fluorite occurs in veins subjected to hydrothermal activity. Millions of years ago, hot water containing fluorine and other minerals was forced up from deep within the earth. When the mixture reached the calcium rich limestone bedrock, fluorite crystals formed along the walls of the fractures and voids in the rock. These veins usually contain metallic ores and the fluorite is the gangue mineral found in fractures and cavities of limestones and dolomites. The term gangue in mining refers to commercially worthless material that surrounds a mineral in an ore deposit. The word gangue is derived from German "gang" – passageway, mineral vein or seam. Fluorite can be massive, granular, or euhedral (fully crystal-faced) as octahedral or cubic crystals. The name of the mineral fluorite is derived from the Latin "fluere" meaning to flow.

Originally, the mineral was termed "fluorospar" The German mineralogist and metallurgist, Georgius Agriocla, known also as George Bauer "the father of mineralogy", originally identified the mineral as fluorspar. Agricola's expertise included philology (study of language in oral and written historical sources), mining and metallurgy. He named fluorspar from the German "Flussspat" from Fluß-meaning *a stream, river* and "Spat" meaning a nonmetallic mineral akin to gypsum, from Old English "spærstān", *spear stone*, referring to its spear-like crystalline projections - such as dogtooth calcite. A spar refers to crystals that have recognizable faces and will easily cleave into rhomboidal, cubical or laminated fragments with smooth shiny surfaces.

(Continued)

CVGMC Gem, Mineral, Fossil, and Jewelry Show Overview

The Catawba Valley Gem and Mineral Club will hold their forty-eighth annual gem, mineral, fossil, and jewelry show on **March 23, 24, and 25, 2018** at the **Hickory Metro Convention Center.** The convention center is located at 1960 13th Ave Drive SE, in Hickory, NC**.** Hours are 9:00 a.m. till 6:00 p.m. on Friday, 9:00 a.m. till 5:00 p.m. on Saturday, and 10:00 a.m. till 6:00 p.m. on Sunday. Chaperoned school, boy or girl scouts, 4-H, church youth, day care, retirement home groups, law enforcement officers and military in uniform will be **admitted free anytime during this 3-day event**. Admission is $5.00 which is good for all three days. Children 12 and under are admitted free.

The 2018 show theme, "Treasures in Our Back Yard, Gems and Minerals of the Catawba Valley" will be highlighted with displayed discoveries of several club members and other well-known collectors in the Catawba Valley area. Focal displays will include emeralds, rutile, hiddenite, quartz, amethyst, etc. Plans also call for presentations about gem and mineral collecting in the area by well-known rock hounds and experts in the field on Saturday, March 24. The show is being dedicated to deceased club members, Jake Canipe, Ken Arnold, and Danny Jones.

Many other educational displays and presentations will be in operation during regular show hours. Some of the areas will include fossils, Indian artifacts, wire-wrapping, cabochoning, faceting, and other lapidary arts. In addition to the focal Catawba Valley gem and mineral displays, other glass-enclosed displays will feature high quality specimens from many United States locations and other countries.

Two education areas will be in operation on Friday, March 23. As many as 12 small group presentations by club members, geology specialists, gemologists, etc. highlight areas such as minerals, fossils, Indian artifacts, and gems. Public, private, and home school groups are invited to attend the educational activities on Friday, March 23, to enjoy these different presentations that align with their geology curriculum. School groups will need to pre-register with the club to attend. A second educational area will house hands-on display where attendees are encouraged to handle labeled specimens and to study them with the aid of a magnifying lens. Club members will be on hand to assist in comparing texture, luster, and other properties of minerals and to answer questions. Other educational demonstrations include the lapidary arts and a display using black lights will allow visitors to see fluorescent minerals. A special limited-touch area will provide an educational experience with fossils such as shark's teeth. Younger children will enjoy searching for free specimens a mini mine. Participants are invited to bring gem and mineral samples for identification at a booth in the education area staffed by a geologist. Over twenty vendors will be on hand to sell during the show. Some vendors provide jewelry benchwork such as stone mounting and wire-wrapping.

A special area will be in place where Boy Scouts may complete most requirements for two merit badges on Saturday or Sunday, **March 24 from 9:30-4:00 p.m. and on March 25 from 11:00 to 3:00 p.m.** Scouts wishing to complete requirements should have reviewed the requirements before coming to the show, so they are prepared to complete these requirements. Cub Scouts, Girl Scouts, and other youth groups are also encouraged to attend.

Drawings for regular door prizes will be held every hour. A grand door prize of significant value is given at the end of the show. Special door prizes will be given school and youth groups. The club will be selling grab bags containing minerals and fossils for $1.00 each. Geodes will also be available.

The Catawba Valley Gem and Mineral Club also has an education committee that will provide programs related to gems, minerals, and fossils in local schools and for various youth groups. An educational exhibit is also available for display in schools for a period of one to two weeks at no charge. Information concerning these services will be available at the gem and mineral show or from Dr. George Max, education chairperson. His phone number is (828) 328-9107. The web page for the club is www.cvgmc.com/. For additional information concerning the show, contact Dean Russell, show chairman, at cvgmcsecretary@aol.com or Dr. Warren Hollar, club educational liaison, at whollar1@gmail.com.

(Continued from Page 4)

Agricola's most famous work - De Re Metallica (Latin for: On the Nature of Metals (minerals), a twelve book series, references the state of art of mining, refining and smelting metals. The book was an authoritative text on mining for a period of 180 years after its publication in 1556, a year after the death of its author. It is believed that the delay in publishing the books was in preparing the numerous woodcuts for the text.

The first English translation of De Re Metallica was published in London in 1912, by an American geologist and mining engineer and his wife, a geologist and Latinist. The translators were Herbert and Lou Henry Hoover. Herbert would later become the 31st President of the USA and Lou, as First Lady to this day is the only First Lady to have spoken an Asian language – proficient in Chinese.

Fluorite has numerous uses in ceramics, metallurgical and chemical industries. It is used as a flux for smelting to decrease the viscosity of slags. The tem "flux" is from the Latin "fluxus" meaning – *flowing.* Fluorspar is sold in three different grades: acid, ceramic and metallurgical. Acid grade is the most pure form and is used mainly to manufacture hydrofluoric acid (HF). Hydrofluoric chemicals include foam blowing agents, refrigerants and fluoride chemicals. Ceramic grade is utilized in the manufacture of specialty glass, ceramics and enamelware. It is also used to produce glazes that have a hard, glossy surface – opalescent surfaces. Teflon is made using fluorine derived from fluorite. Metallurgical grade is used to produce iron, steel and other metals. Fluorspar serves as a flux to remove impurities of sulfur and phosphorous and improves the fluidity of slag.

Central Kentucky Fluorspar District – the Bluegrass Region – consists of more than 200 vertically dipping vein deposits in north trending faults. As we spoke about previously, during the early 1900s, major mines operated at Mundys Landing in Mercer and Woodford Counties at the Chinn, Faircloth and Twin Chimney Mines. The Chinn Mine in Mercer County operated in the early 1900s, and produced calcite and fluorite, with minor barite and sphalerite. Two shafts and an open-cut trench were opened on the vein. The Faircloth Mine (East) is an extension of the Chinn Mine vein –with faults occurring in the Oregon Formation and Tyrone Limestone of the High Bridge Group and limestone members of the Lexington Limestone. The vein is approximately 2,000 feet long, 2-3 feet wide and extended approximately 300 feet vertically. Mining operation was to approximately 100 feet below the river level. The vein was mined sporadically for minerals including fluorite, calcite and to a lesser degree barite and sphalerite, with the production of fluorite at nearly 6,000 tons during the time period of WWII. The West Faircloth Mine - a northeast-trending vein, also occurs along a fault roughly parallel to and 1,000 feet to the west of the East Faircloth Mine. The vein is 2,400 feet in length, 3.5 -6 feet in width with minerals of fluorite, calcite, barite and yellowish-orange sphalerite with brecciated limestone.

Kentucky has been the second largest producer of fluorspar in the Unites States. The distribution and location of mineral resources in Kentucky is due to such geologic features as the Cincinnati Arch – an anticlinal structure uplifted between basins, the Appalachian and Illinois basins, the Mississippi Embayment and the Ohio River Valley.

Faults and related fractures and joints associated with the Lexington and Kentucky River fault systems are where the numerous vein deposits of barite, calcite, fluorite, galena and sphalerite exist; although the veins are generally small in the Central Kentucky region.

The majority of fluorite has been produced in the western Kentucky fluorspar district in the complex faults of Mississippian carbonate rocks. The veins vary in width from 3-10 feet for several hundred feet and have been mined to a depth of over 800 feet. Fluorite is the dominant mineral deposited in the district.

During our field trip, we visited the property of Phil Daly for our geode hunt. Phil also had a wonderful collection of minerals for sale in his garage. He had several beautiful pieces of fluorite collected at the Eureka Mine located in Marion, Crittenden County, in western Kentucky. Marion is home the Ben E. Clement Mineral Museum, a collection of thousands of fluorite crystal specimens ranging in weight from ounces to hundreds of pounds. Ben Clement used his limited resources to operate a succession of fluorspar mines in the 1920s. In the early 1960's when the price of foreign ore became cheaper for the steel industry, Clement would supply fluorite and accessory minerals to the collector's market, which he did until his death in 1980.

I heard the museum is a must to see – and if I ever have the chance to collect at the Eureka Mine – well – I will be there! Now back to Phil's specimens – there were many beautiful specimens of a variety of minerals, but the one everyone fell in love with due to its beautiful crystals and deep purple is now in the collection of Larry Huffman!

It is recommended to store fluorite crystals out of direct light, since heat and light tend to make the color of the crystals of fluorite to disappear.

First Class Mail

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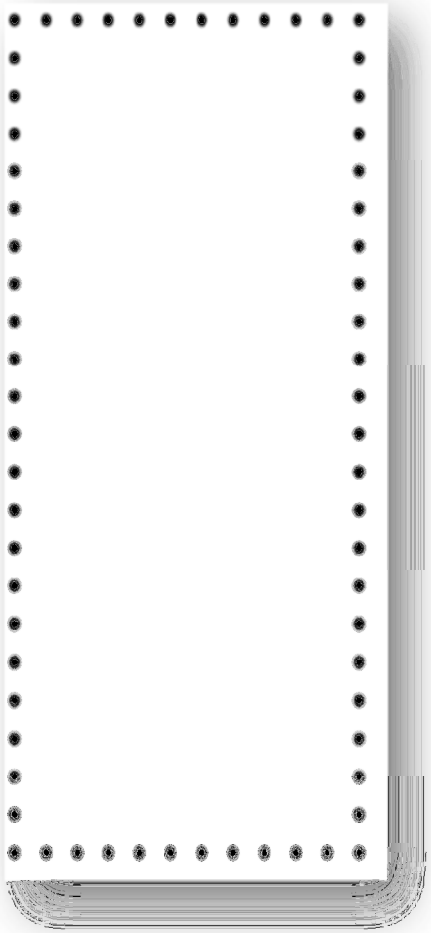

Tar Heel Rockhound

Official Publication of

Catawba Valley Gem and Mineral Club, Inc.

Volume 47 Number 1

Club Meeting

Tuesday
January 9, 2018
7:00 PM
St Aloysius Catholic Church
921 2nd St NE
Hickory, NC