TAR HEEL ROCKHOUND

MAY 2016

CATAWBA VALLEY GEM & MINERAL CLUB, INC.

2016 OFFICERS AND COMMITTEES

President:	George Brown 828-292-7407	Editor:	Velda McLean 828-572-1826	Show Chairmen:	Baxter Leonard 828-320-4028
Vice President:	Joan Glover 828-446-7633	Field Trip:	Harry Polly 828-728-9553	Scholarship:	George Max 828-328-9107
Treasurer:	Terry Russell 828- 303-1563	Education:	George Max 828-328-9107	Eastern Federation Liaison:	Larry Huffman 828-612-4469
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, $18; Individual, $12; 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.

http://sterlinghillminingmuseum.org/superdig/index.php

Sterling Hill Mine Super Dig Field Trip Report
Article by Larry Huffman and Cheryl Neary
(pages 4&5)

INSIDE

CATAWBA VALLEY
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http://www.cvgmc.com/
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PRESIDENT'S MESSAGE

George Brown, Club President

I have had a lot of people call, email, or just talk to me on how much they enjoyed our last show. The Home School Group thanked us so much for the care and concern showed to their children. It was a great hit! I have also gotten some suggestions on how it could be made even better. So I am opening up our next meeting for any suggestions you might have. DIG IT!!

George

CATAWBA VALLEY GEM AND MINERAL CLUB, INC.

Minutes for April 12, 2016

The April 12, 2016 meeting of the CVGMC was called to order by President George Brown at 7:00 PM. There were 35 members and 5 guests present.

Minutes: Motion by Rick G., seconded by Larry H. to accept the minutes for the March 8, 2016 meeting. The motion was passed by the Club membership.

Treasurer Report: None

Education Committee: None

Field Trip Report:

1) Saturday, April 16, 2016 to the Little Pine Garnet Mine.
2) April 22-24, 2016 to the Sterling Hill Mining Museum Super Dig in New Jersey. Leave 4-22, dig on 4/23, and come home 4-24. Check out www.sterlinghillminingmuseum.org/superdig/schedule for more information. Also see Larry Huffman for more information.
3) August 8-15, 2016 the Michigan Trip. Register after 4-1-2016. See Larry Huffman for more information.

Old Business: Possible Clubhouse available in April.

New Business:

1) Larry H. reported on: Save the dates of August 8-14, 2016 for the Lake Superior Agate trip to Munising, MI.
2) Rodney Leftwich won the Grand Door Prize at the 2016 Show.
3) Wayne W., son-in-law of Rick and Joan G., was able to help a deaf father and Boy Scout with his *American Sign Language* skills at the Show. THANK YOU!
4) Club members Slade H.'s and Laura H.'s birthday were celebrated.

Closing of Business: The meeting was adjourned at 7:18 PM.

Program: Club member, Jimmy S. gave a presentation on "Photographing Fluorescents".

Respectfully submitted,
Dean Russell, Secretary

FIELD TRIP NEWS

Dean Russell,
Acting Field Trip Chair

May is a crazy month for me this year. I don't have an open Saturday to lead a trip. (We are trying to get a house finished remodeling and then get Ryan and Meg moved in before Memorial Day weekend.) If someone in the club is interested in leading a trip, they can volunteer at Tuesday's meeting

Dean

MAY PROGRAM

Joan Glover, Program Director

The program this month is being given by Ron Ruschman. It is, *Rockhound Characters I Have Known.*

Joan

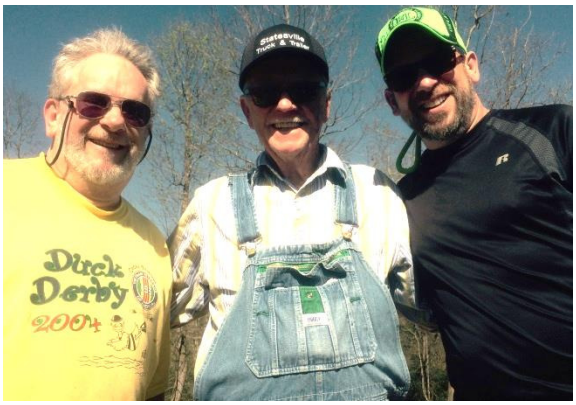
HAPPY BIRTHDAY, SLADE

HIDDENITE FIELD TRIP

April 9, 2016

Photos by Cheryl Neary

Mr. Sharp (right), Landowner



POTLUCK PICNIC AND ROCK SWAP/SALE

Saturday, June 18, 2016.

All EFMLS members and their families are invited to attend. Hope to see you there.

Jean Charsky, EFMLS Region IV VP

The Southern Maryland Rock & Mineral Club is proud to sponsor the 2016

Eastern Federation of Mineralogy and Lapidary Societies (EFMLS)

Region IV Potluck Picnic and Rock Swap/Sale

Gilbert Run Recreational Park
Charlotte Hall, MD

Saturday, June 18, 2016
9 am - 5 pm

Admission to the Park is $5 per carload
(No charge for swapping or selling)

"This is an old-fashioned rock swap where people who collect rocks, minerals and fossils will be selling and trading specimens"

Schedule of Events:	**Address:**
9:00 - 12:00 Swap and sell	Gilbert Run Recreational Park
12:00 - 1:30 Potluck Lunch and Auction	13140 Charles Street
1:30 - 5:00 Swap and sell	Charlotte Hall, MD, 20622

Details:

This is a free event for all EFMLS rock club members and their families and friends. In addition to minerals, fossils and lapidary for swap/sale each attendee/family is asked to bring a potluck dish to share, and one labeled specimen donation for an auction that will take place after lunch.

The auction will help defray the cost of the event. There is ample parking for tailgate swapping/selling. Please bring your own tables and chairs. There are onsite restrooms and handicap access. Donations of excess rocks and related tools to the "Treasure Box" are welcomed and are free for anyone to take. The Southern Maryland Rock and Mineral Club will provide plates, cups, plastic ware, sodas, and bottled water.

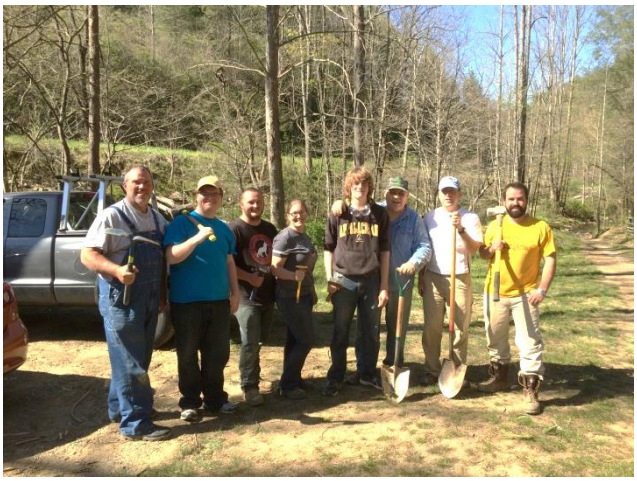
Contact Person: Dave Lines (240)-427-7062
Dave.Lines@earthlink.net

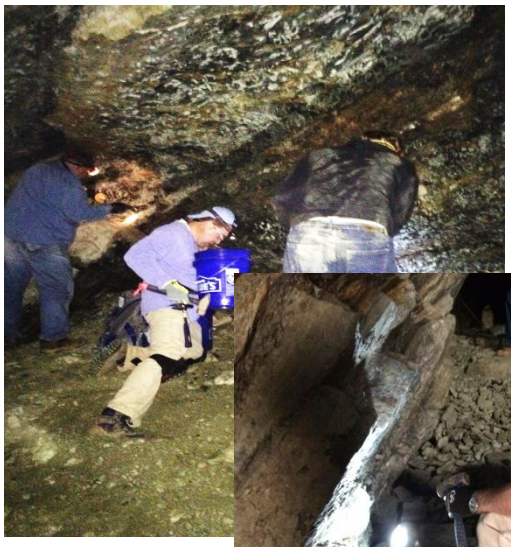
Directions:
From the D.C. Beltway:
Take Rt. 5 South (Exit 7A) towards Waldorf
Go 12.3 miles and turn left onto Mattawoman Beantown Rd. (Rt.5)
Go 3.2 miles and turn left onto Leonardtown Rd. (Rt.5).
Go 4.9 miles and turn right on Olivers Shop Rd.
Go 5.9 miles and turn left onto Charles St. (Rt 6)
Go 1 mile and turn left into Gilbert Run Recreational Park
OR
Take Rt. 301 to La Plata, turn left onto Charles St (Rt 6 East) and go 8.6 miles to Gilbert Run Recreational Park
Turn left into Gilbert Run Park and follow the signs to the Hilltop Pavilion Parking lot.
From La Plata, Md
From Rt. 301, take Rt. 6 East (Charles St) 8.6 miles
Turn left into Gilbert Run Park and follow the signs to the Hilltop Pavilion Parking lot.

LITTLE PINE GARNET MINE

April 16, 2016

Photos by Dean Russell





FIELD TRIP TO STERLING HILL MINE IN NEW JERSEY FOR THE SUPER DIG

Hosted by Delaware Valley Earth Science Society, Inc.

by Larry Huffman and Cheryl Neary

From the Catawba Valley Gem & Mineral Club:
Harry Polly, Larry Huffman, Shelda & Richard Aultman
From the Buffalo Club: David Russell (Crazy Dave)
Island Rock Hounds: Cheryl Neary

Larry's neighbor, second grader, Ella Kate was so enthralled with his fluorescent mineral display that her mom had to nearly pull her out of his home. Ella Kate was mystified when she saw the "plain old brown, black, and grey rock glow in bright orange and greens and yellow!" How? Why? Where? These are the questions she asked – which so many of us also ask! We hope to give you a better understanding, so read on!

So a little bit about the geology of Sterling Hill Mine:

First, Sterling Hill Mine is located in the physiographic province of the New Jersey Highland, in the town of Ogdensburg. The Highlands, noted for its distinct character of mountainous upland, rocky northeast-trending ridges, woodlands, numerous lakes and waterfalls, is an important source of drinking waters and the most ancient part of the State of New Jersey. Geologic processes began shaping the Highlands over a billion years ago. Rocks of similar age and origin as the Highlands form the Hudson Highlands in southern NY, Adirondack Mountains in northern NY, Green Mountains in Vermont, Berkshire Mountains in Massachusetts, and to the south, the Blue Ridge Mountains in Virginia, Great Smoky Mountains of NC and Tennessee.

The Franklin-Sterling ore bodies are situated in the Franklin Marble belt, which is located on the northwest edge of Reading Prong – a mere 50 miles from NYC. The Reading Prong trends northeasterly from Reading, Pennsylvania through New Jersey into New York as the Hudson Highlands. The Proterzoic rocks of the Reading Prong and the Hudson Uplands are now thought to be a part of a vast allochthon (a large block of rock which has been moved from its original site of formation usually by thrust faulting) or overthrust belt.

The origin of the ores in the Franklin Marble remains unclear in the geologic history of the district.The zinc-iron—manganese ore deposits in Franklin-Ogdensburg (Sterling Hill Mine) are distinct and found nowhere else in the world. The deposits yielded over 360 different minerals, with at least 20 minerals unique to the deposit, with nearly 60 of these minerals exhibiting luminescence, in the form of instantaneous fluorescence or as persistent phosphorescence.

Mining in the Highlands began as early as the 1700's, or possibly even the late 1600's and lasted until 1987. The Franklin mine was worked from the late 1700's to 1954 and the Sterling Hill mine from the late 1700's to 1987. Currently there are no operating underground mines in the state.

The Dutch or English were the earliest miners. Iron ore (magnetite) was extensively mined in the Highlands between 1710 and 1966. By the time of the Revolutionary War, eight (8) furnaces and 79 forges were in operation to process iron ore for use by the Continental Army. New Jersey led the nation in iron ore production from the late 1800's and early 1900's until the discovery of the Lake Superior deposits in Michigan.

The first iron smelter (or furnace) was built before 1787 in Sparta by Robert Ogden, after whom the town of Ogdensburg is named. Sterling Hill Mine is located on Ogdensburg. In 1765, an iron forge was built in Franklin, named after the son of Benjamin Franklin-William Franklin A smelting furnace was added in 1770. The forge and

furnace were located west of the dam on Mine Pond but was covered in the 1930's to build a small park. The name Franklin Furnace was founded on the presence of iron ore in the region. A large, modern blast furnace was built in the area in 1874 and continued operation until 1906.

During the early 1900's New Jersey ranked second in the nation in zinc ore production, with the State of Missouri ranked first until 1918, when Oklahoma was ranked first, The Franklin and Sterling Hill mines zinc- ore (franklinite, willemite, zincite), produced a combined total of more than 36 million tons of ore by the time of their closure. Zinc is the fourth most widely used metal after iron, aluminum and copper.

So how did the area now known for its unique geology become known as Sterling Hill?

The property was once owned by William Alexander, known as Lord Stirling. William Alexander was a major-general during the American Revolutionary War and although born in New York, he was considered male-heir to the title of Earl of Stirling through Scottish lineage. Lord Stirling commanded the 1st Maryland Regiment that fought at the Battle of Long Island (also known as the Battle of Brooklyn) near the area today named the Gowanus Creek, which empties into the Upper New York Bay Although he lost the battle and was captured, his actions allowed for the safe escape of George Washington's troops. He was returned by prisoner exchange and promoted for his actions.

His father, James Alexander immigrated to America in 1715 and was one of the leading lawyers in NYC. William Alexander became a business partner with his mother, Mary, in the mercantile industry. He inherited a large fortune from his father. He engaged in mining and agriculture and sold his home in New York and moved to the Basking Ridge section of New Jersey, which was originally settled in the 1720s by British and Scottish people escaping religious persecution. The land was bought from the Lenape Native Americans, who were the first native community to sign a treaty with the new Unites States Government. The Lenape are also called the Delaware Indians (named by the colonists who named the Delaware River for the first governor of Virginia) with their territory including eastern Pennsylvania, New Jersey, along the Delaware River watershed, western Long Island and the Lower Hudson Valley and eastern Delaware. In the 1860s the US government sent most of the Lenape to live in the area known today as Oklahoma.

As stated previously he engaged in mining and agriculture and in 1767, The Royal Society of Arts awarded Lord Stirling a gold medal for establishing viticulture and winemaking in the North American colonies by cultivating 2,100 grape (c vinifera) wines on his New Jersey estate. He was active in developing iron mines in Sussex County and owned the mine now known as Sterling Hill from 1761 to 1776, making numerous unsuccessful attempts to develop and smelt the ores of Manganese (Mn), Zinc (Zn) and Iron (Fe), since the combination of ores produced a refractory ore that was difficult to purify.

The primary ore group consists of four (4) minerals:

Franklenite, identified in 1820 and named after the locality of Franklin, NJ; *Willemite*, identified in 1820, Fluorescences bright green; Zincite, discovered in 1810, Non Fluorescent; *Calcite*, much containing manganese (rhodochrosite solid solution), Fluorescences bright red.

Both Franklinite and zincite are only known in trace amounts elsewhere in the world. Manganiferous calcite is known as a gangue mineral in mining. A gangue mineral is the commercially worthless materials that surround the wanted mineral in an ore deposit.

What makes Sterling Hill unique is the number of minerals exhibiting the phenomena of fluorescence. What is fluorescence? According to the on-line dictionaries, it is the visible or invisible radiation (light) produced from certain substances as a result of incident radiation of a shorter wavelength such as X-rays or ultraviolet light.

Short wave radiation yields the best results from rocks and minerals of Franklin-Sterling Hill. Long wave radiation does have an effect on some specimens too. The dominant minerals that show spectacular color are calcite (white, cream, yellow, orange, red, green and pink fluorescence), smithsonite (yellow fluorescence) and willemite (bright green, yellow-orange and yellow fluorescence).

Cheryl Neary volunteered again this year:

Last year she found it fascinating and met people from all over the U.S. who enjoyed a yearly trek to the north part of NJ. This year she met a woman from Canada who described her excitement and enthusiasm as simply" How could you not want to be here?"

This year members of the Catawba Valley Gem & Mineral Club were also at the event. It was nice seeing them, as well as Dave Russell, who is the brother of Dean Russell, the CVGMC's newest field trip leader. Dave is active with the Buffalo Gem & Mineral Club and we had the honor of meeting him a few weeks ago in Hickory while volunteering down there at the children's table for their show. We also were on the field trip to Hiddenite (neither of us found Hiddenite or emeralds).

This year at SHM Cheryl worked the cash register. She said Dave might have been at the top of the list for the most amount of material he collected. What is interesting is that Dave makes spheres from the material. He described the process and it appears to be a work of art!

While at the Hickory show, Shelda and Richard Aultman had purchased a black light that has both short and long wavelengths. The light was lightweight and reasonable in price and has batteries and also a charger - so yes we bought 3 and they worked great at the dig.!

Larry made a hood out of a barbeque cover to use while in the field collecting with Harry. Harry said it worked great and so did the lights!

The Super Dig allows for a variety of mine tours and Shelda did them all! Richard was just too busy collecting. Harry and Larry thoroughly enjoyed the Upper Mine Tour seeing all the equipment.

The Night Dig was the greatest dig I have been on, said Larry. Even though the moon was full when the Super Dig director lit up a hillside in the quarry with short and long wave UV lights, it looked like a rainbow in the night. It was easy to find the fluorescent minerals in the dark. You just had to be careful about where you were walking.

The following day, Shelda and Richard ventured off to Pennsylvania in hopes of finding fossils, especially plant fossils. The museum that they support at the Coast is always looking for donations of especially plant fossils. I heard from Shelda and Richard that the directions given by a fellow rockhound and excellent editor of the Wayne County Gem and Mineral Club Fred Haynes were great. They brought back some nice fossils for Richard's collection and some for grab bags and children's door prizes for the show next year!

Harry Polly stated "If I he had to describe in one word it would be "FANTASTIC"! But one word is not sufficient to describe the adventure. I have always wanted to go dig there since I was a teenager, and the opportunity finally presented itself. It was truly an adventure of a lifetime for me. Thanks to all who helped put this on. Hats off to each of *y'all*.

Next year, perhaps you may want to volunteer or just spend a full day at the Mine. There are many highlights to the day and the museum itself is wonderful. You too can go home excited about your finds and introduce the magical wonders of the Sterling Hill Mine to a young or older neighbor or family member and watch that priceless expression on their faces as their eyes speak loudly- How? Why? Where?

First Class Mail

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Club Meeting

Tuesday
May 10, 2016
7:00 PM

St Aloysius Catholic Church
921 2nd St NE
Hickory, NC