FORSYTH GEM AND MINERAL CLUB, INC.

Nature's Treasures

April 18, 2019

****** Public Version ******

MEETING: The next meeting of the Forsyth Gem and Mineral Club will be held at **7:30 PM, April 18, 2019**, the third Thursday of the Month, at **Vulcan Materials Company's Training Center, 4401 N. Patterson Ave., Winston-Salem, NC**

PROGRAM: Our speaker will be club member and co-owner of Backwoods Prospector Shaun Shelton (rescheduled from February). He will be presenting the history of and minerals found at the Silver Hill Mine in Davidson County.

Refreshments: Refreshments for the meeting will be provided by the **Whickers and Becks.** The Club will provide cups and napkins and ice for the refreshments. Those volunteering to provide refreshments need only provide sufficient drinks and snacks, such as, cookies, cakes, crackers, or donuts ***and ice***

2019 Refreshment List

January	Sandra and Stephanie Myers	July	Shelton and Hyde
February	Dow and Brouhle	August	Picnic
March	Hebert and Gaskill	September	Show
April	***Whicker and Beck***	October	Fulcher and Roby
May	Goode and McGilvary	November	Reed and Marion
June	Gonzalez & Schlottman	December	Holiday/Show Dinner

If you enjoy the refreshments, please be prepared to take a turn in furnishing them. NOTE: if you volunteer to bring refreshments, please do so. If you are unable to attend for any reason, contact Vickie or Al Gaskill prior to the meeting so that alternate arrangements can be made.

Note: Due to equipment issues in the meeting area kitchen, it will be necessary for the refreshments providers to also bring ice for the drinks, at least for the next couple of months.

Dates To Remember:

September 6-8, 2019 – Annual Gem, Mineral, Jewelry, and Fossil Show

DON'T FORGET YOUR NAME TAGS

FGMC Field Trip

The primary field trip for April will be to a private location in Hiddenite. Jeff Schlottmann is handling the trip and will have details at the April meeting.

In addition, a special field trip will be held on May 11 to Mason's Sapphire and Ruby Mine. This is a mine/sluice site open to the public. The trip will be before the May meeting.

There is a work in progress to get another field trip for May, for the usual third Saturday on May 18. Details on this will be in the May newsletter.

Details of the Mason's Mine Trip

The Mason's Ruby and Sapphire Mine is located near Franklin, NC. It is one of the few mines left in the area that still offers native material. They have a "dig your own" area where collectors fill buckets with local material and then carry to the flume line for washing. They also offer "enriched" buckets. The mine provides buckets, shovels and everything you need with possibly the exception of a hand truck or cart to carry the buckets to the flumes. Staff will be on hand to assist in identification of finds. More information can be found at www.masonsmine.com .

Time: Saturday May 11, 2019 – 9:00 am to 5:00 pm

Cost: The owner has offered us a group rate of $25 per person, possibly more depending on the size of our group.

What to bring: Good mud boots, change of clothes (be prepared to get dirty), bag lunch, water and maybe a hand truck or cart.

What to find: Sapphires, rubies, garnets, rutile, kyanite, sillimanite, mica and quartz

Lodging: There are a number of hotels and campgrounds in the area, but it is suggested to book early as this is a busy time of year for the area.

Directions: (From the Mason Mine website) - If you plan to use GPS to find the mine and you are coming from Cherokee/Gatlinburg please set your GPS to go to Franklin first. If coming from Bryson City set it for Dillsboro then Franklin. If you set it for our mine directly it takes you down a curvy gravel road not much more than a one lane cow path along the Little Tennessee River. That road is scenic, but it's has no gas stations, services, isolated, and tends to flood during heavy rain events! 441 is four-lane all the way to Franklin and is much quicker. If you are using GPS set your device to find the Macon County Airport once you reach Franklin. The best route from downtown Franklin is to take Highway 28 North 2.7 miles to the Airport Rd which is on the left. Stay on the Airport Rd for 2.3 miles till it ends at Olive Hill Rd and bear left. From there on there are signs for Mason's every mile or two. Stay on Olive Hill Rd for about 4 miles and it becomes Upper Burningtown Rd as you bear left at the bottom of a big hill. In 2 miles you will see our mine on the right. If you pass the mine you will hit a gravel road in a quarter mile that ends in another quarter mile at a gate.

Trip Leaders: Brent Beck (336) 240-7325 Charles Whicker (336) 880-9206

The trip is scheduled to coincide with several shows in Franklin that weekend, including the following:

Mother's Day Gemboree at the Robert C. Carpenter Community Building, 1288 Georgia Road/ US 441 May 10 thru May 12

Highlands Road Gem Show, 1602 Highlands Road, May 9 thru May 12

Echo Valley Gem and Mineral Show, 6456 Sylva Road, May 8 thru May 12

G&LW Gem Show, Watauga Festival Center, 6296 Sylva Road, May 10 thru May 12

More information about the shows can be found at: Franklin Gem & Mineral Showcase - 2019 Show Schedule

Ruby City will also be holding a "back door sale" May 10 and May 11, with old stock that has been in storage for several generations. More information can be found in their newsletter: https://mailchi.mp/99fd5b4f1a54/mays-newsletter?sfns=mo

And of course, the Franklin Gen and Mineral Museum is located at 22 Phillips Street: www.fgmm.org .

Dixie Mineral Council Field Trip

The next DMC trip will be May 18 to Chunky Gal Mountain. Details will be in the May newsletter.

Upcoming Shows and Events

June 1st, 2019 -Greensboro (NC) Gem & Mineral Club hosts its 7th Annual Piedmont Open Air Gem, Mineral and Jewelry Show - Saturday hours - 9 A.M. to 5 P.M. Piedmont Triad Farmers Market 2914 Sandy Ridge Road, Colfax, NC Gemstones, minerals, fossils, geologic collectibles, slabs, cabachons, hand crafted jewelry, demos, books. Free mini-geode cut for kids 12 and under. Gem mining wagon. Door prizes and Grand Prize raffle. Concessions. Free parking and free admission. 24+ vendors, 1200+ attendees. Fun for the young, the no-so-young, the curious and the collector. Vendors contact KB Montgomery, ggmc.rock@gmail.com or 336-706-0061. More info and application and flyer on www.ggmc-rockhounds.com

Sunday,July 28th to Sunday,August 4th, 2019 - The 35th Annual Grassy Creek Mineral and Gem Show put on by the Parkway Fire and Rescue to raise money for new equipment. This Gem Show has everything! Over 60 US and International dealers with almost any kind of jewelry, gemstone and mineral specimens, fossil, lapidary equipment and more you might want. Each booth is 20 foot by 40 foot so there are LOTS of items for sale. Parking and admission are free. Food is available. Porta-a-johns are available. This is an outside event so be prepared for rain. Some vendors open on Saturday 27th. Hours: 10 to 6 daily with many vendors open earlier and later because they are staying with their booth. Address: 136 Majestic View, Spruce Pine, NC 28777. This location is on the hill above the previous location. Contact: Donna Collis collisdonna@yahoo.com 828-765-5519. Email: info@grassycreekgemshow . Website is www.grassycreekgemshow.org . Applications and pictures are available on the website.

Meet the Vendor: Backwoods Prospector

Shaun and Amber Shelton of Backwoods Prospector have been vendors at our show for several years now. They have also recently joined the club, and thus are the third of vendor/club member group.

Backwoods Prospector specializes in mineral samples. In particular they offer up a wide variety of North Carolina minerals, quite a bit of which they have collected themselves. They also offer a number of hand-made display stands.

Shaun is also our scheduled presenter for the April program. He has an extensive knowledge of minerals and the history of mineralogy.

Those interested can follow their activities on their Facebook page:

https://www.facebook.com/Backwoodsprospector/

Reviewing: Graphite

From Geology.com/minerals

Graphite and diamond have the same composition but completely different properties.

What is Graphite?

Graphite is a naturally-occurring form of crystalline carbon. It is a native element mineral found in metamorphic and igneous rocks. Graphite is a mineral of extremes. It is extremely soft, cleaves with very light pressure, and has a very low specific gravity. In contrast, it is extremely resistant to heat and nearly inert in contact with almost any other material. These extreme properties give it a wide range of uses in metallurgy and manufacturing.

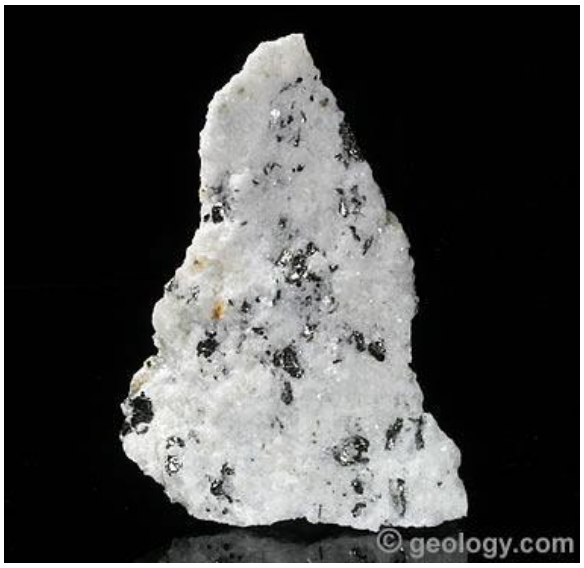
Geologic Occurrence

Graphite is a mineral that forms when carbon is subjected to heat and pressure in Earth's crust and in the upper mantle. Pressures in the range of 75,000 pounds per square inch and temperatures in the range of 750 degrees Celsius are needed to produce graphite. These correspond to the granulite metamorphic facies.

Graphite From Regional Metamorphism (Flake Graphite)

Most of the graphite seen at Earth's surface today was formed at convergent plate boundaries where organic-rich shales and limestones were subjected to the heat and pressure of regional metamorphism. This produces marble, schist, and gneiss that contain tiny crystals and flakes of graphite.

When graphite is in high enough concentrations, these rocks can be mined, crushed to a particle size that liberates the graphite flakes, and processed by specific gravity separation or froth flotation to remove the low-density graphite. The product produced is known as "flake graphite."



Graphite From Coal Seam Metamorphism ("Amorphous" Graphite)

Some graphite forms from the metamorphism of coal seams. The organic material in coal is composed mainly of carbon, oxygen, hydrogen, nitrogen, and sulfur. The heat of metamorphism destroys the organic molecules of coal, volatilizing the oxygen, hydrogen, nitrogen, and sulfur. What remains is a nearly pure carbon material that crystallizes into mineral graphite.

This graphite occurs in "seams" that correspond to the original layer of coal. When mined, the material is known as "amorphous graphite." The word "amorphous" is actually incorrect in this usage, as it does have a crystalline structure. From the mine, this material has an appearance similar to lumps of coal without the bright and dull banding.

Graphite from Hydrothermal Metamorphism

A small amount of graphite forms by the reaction of carbon compounds in the rock during hydrothermal metamorphism. This carbon can be mobilized and deposited in veins in association with hydrothermal minerals. Because it is precipitated, it has a high degree of crystallinity, and that makes it a preferred material for many electrical uses.

Graphite in Igneous Rocks and Meteorites

Small amounts of graphite are known to occur as a primary mineral in igneous rocks. It is known as tiny particles in basalt flows and syenite. It is also known to form in pegmatite. Some iron meteorites contain small amounts of graphite. These forms of graphite are occurrences without economic importance.

Physical Properties of Graphite

Chemical Classification	Native element
Color	Steel gray to black
Streak	Black
Luster	Metallic, sometimes earthy
Diaphaneity	Opaque
Cleavage	Perfect in one direction
Mohs Hardness	1 to 2
Specific Gravity	2.1 to 2.3
Diagnostic Properties	Color, streak, slippery feel, specific gravity
Chemical Composition	C
Crystal System	Hexagonal
Uses	Used to manufacture heat and chemical resistant containers and other objects. Battery anodes. A dry lubricant. The "lead" in pencils.

Graphite and Diamond

Graphite and diamond are the two mineral forms of carbon. Diamond forms in the mantle under extreme heat and pressure. Most graphite found near Earth's surface was formed within the crust at lower temperatures and pressures. Graphite and diamond share the same composition but have very different structures.

The carbon atoms in graphite are linked in a hexagonal network which forms sheets that are one atom thick. These sheets are poorly connected and easily cleave or slide over one another if subjected to a small amount of force. This gives graphite its very low hardness, its perfect cleavage, and its slippery feel.

In contrast, the carbon atoms in diamond are linked into a frameworks structure. Every carbon atom is linked into a three-dimensional network with four other carbon atoms with strong covalent bonds. This arrangement holds the atoms firmly in place and makes diamond an exceptionally hard material.

Synthetic Graphite

"Synthetic graphite" is made by heating high-carbon materials like petroleum coke and coal-tar pitch to temperatures in the range of 2500 to 3000 degrees Celsius. At these high temperatures, all volatile materials and many metals in the feedstock are destroyed or driven off. The graphite that remains links into a sheet-like crystalline structure. Synthetic graphite can have a purity of over 99% carbon, and it is used in manufactured products where an extremely pure material is required.

Article by: Hobart M. King, Ph.D., RPG

Meeting Minutes

28 members present

Viewed a DVD- episode about the Cave of Swords (Cueva de la Crystales).

Next month speaker: Sarah Stine. Discussion and information about classes held at the Sawtooth Center.

Charlie Whicker teaches 2 classes at the Sawtooth Center- fabricating cabochons.

4- week classes are held on Wednesday: 9:30 am to 12. Or 6:30pm to 9.

Door prizes were won by Stephanie Myers- she picked a moss agate slab.

Wayne Ketner (graciously gave his winning door prize ticket to Brooke West- new member)-she picked a garnet bead necklace.

Thanks to the Hebert's and Gaskill's for tasty refreshments.

Upcoming events:

March 23 Field trip- Propst Farm – to hunt for corundum- (sapphires). Meet at 9 am. $25 per person fee. Bring snacks and water. ½ inch mesh screen works well to help find material.

Field trip opportunity at the Mason Sapphire Mine- near Franklin, NC. Sept. or Oct. This is a native "dirt" mine in which you try to find sapphires or buy "salted" dirt. Group discounts are available or mention FGMC for possible discount.

March 23- Dixie Mineral Council field trip. Tennessee to look for fossils.

April 6- Summerville, GA. Lace agate.

August 17- Club picnic and grab bag assembly. Please bring small pieces of minerals to fill the grab bags. We will assemble 500-750 bags. And, of course, bring food.

August 24- Club auction

Nov. 23-24. Sat and Sun. Tellus Museum (behind-the-scenes) tour and field trip to a quarry in Bartow County, GA.

.Respectfully Submitted,
Lisa Reed, Secretary

Nature's Treasures

Nature's Treasures is the monthly newsletter of the Forsyth Gem and Mineral Club.

President:	Al Gaskill	
Vice-President:	Charles Whicker	ccwhicker@live.com
Secretary:	Lisa Reed	
Treasurer:	Alex McGilvary	amcgilvary@csmenvironmental.com
Directors	David Goode Sandra Myers Sherry Marion Ken Reed	dgoode@triad.rr.com
Hospitality Chair:	Vickie Gaskill	
Editor:	Wayne Ketner	336-769-3553 grumbles@triad.rr.com