

TAR HEEL



ROCKHOUND

SEPTEMBER 2015

CATAWBA VALLEY GEM & MINERAL CLUB, INC.

2015 OFFICERS AND COMMITTEES

President:	George Brown 828-292-7407	Editor:	Velda McLean 828-572-1826	Show Chairmen:	Baxter Leonard 828-320-4028
Vice President:	Rick Glover 828-324-0707	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.

An Afternoon with Diamond Dan on the Golf Course

© Darryl Powell



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CATAWBA VALLEY
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PRESIDENT'S MESSAGE

George Brown, Club President

I would like everyone to brain storm on how we can get the word out about our Great Club and all it has to offer. We need to find a way to reach all the new people out there that we can enrich with what we know and do. To me this is the only way this club will be able to continue growing to its full potential.



George

CATAWBA VALLEY GEM AND MINERAL CLUB, INC.

Minutes for August 11, 2015

The August 11, 2015 meeting of the CVGMC was called to order by President George Brown at 7:00 PM. There were 32 members and 8 visitors present.

Minutes: Motion by Larry Huffman, seconded by Harry Polly to accept the minutes for the July 14, 2015 minutes. The motion was passed by the Club membership.

Treasurer Report:

- 1) The bank balance was reported.
- 2) If you need a membership card, see Terry Russell.

Field Trip Report:

- 1) August 15th Elk Park for epidote, magnetite, augite.
- 2) Kentucky Geode Trip – Labor Day weekend.

Education Committee: None

Show Committee: None

Old Business: EFMLS Microscope Raffle tickets still available.

New Business:

- 1) EFMLS Certified Case School August 14-16, 2015. George Brown is interested in attending. Motion by Larry Huffman, seconded by Harry Polly to have the Club reimburse for the airfare and hotel. The motion was passed by the Club membership.
- 2) The Club was represented by Richard Aultman at the Aurora Fossil Festival. Richard asked for a volunteer to display at

next year's festival. See Richard for information.

- 3) A motion by Harry Polly, seconded by George Max to remove two cases from LR University to Richard Aultman for display at the Aurora Fossil Festival. The motion was passed by the Club membership.
- 4) An update on Anne Koebberling was given.
- 5) A motion by Harry P., seconded by Larry H. to donate \$50.00 to the EFMLS Scholarship Fund and \$50.00 to the Dudley Shoals Baptist Church Mission Fund in memory of Tyler Sims. The motion was passed by the Club membership.
- 6) A motion by Rick Glover, seconded by George Brown to reimburse Larry Huffman \$52.50 for amethyst for the 2016 Show. The motion was passed by the Club membership.
- 7) Baxter Leonard donated a collection of minerals for the 2016 Show.
- 8) An update on Glen Bolick was given. He is improving.
- 9) October 10th, Doc's Rocks is holding a Breast Cancer Fundraiser.
- 10) Eric Fritz is donating geodes for the 2016 Show.
- 11) Rick Glover is asking for program presenters.
- 12) The Aldridge Family and Shriners Hospital thanked the Club for its donation.
- 13) George Brown showed a stein fern he had found.

Closing of Business: The meeting was adjourned at 7:55 PM.

Program: A presentation, *Collecting Prairie Agates in Nebraska and South Dakota*, was given by Joan and Rick Glover.

Respectfully submitted,
Dean Russell, Secretary

SEPTEMBER PROGRAM

Rick Glover, Program Director

September program is presented by the Club President George Brown. He will report on his Judge training program and explain what the judges look for when judging cases.

Rich



FIELD TRIP NEWS

Harry Polly,
Field Trip Coordinator

Kentucky Field Trip Labor Day Weekend



Harry

IT'S BACK TO SCHOOL TIME!

by Betsy Oberheim, EOTO Chair

To many of us, back to school time means the grandchildren are getting school clothes and new shoes and are maybe not as excited as we hope about the new school year!

But it also brings new possibilities for spreading the word about our club and our love of geology. Are you aware of what grades of elementary school near you concentrate on a geology unit? In our system its only 3rd grade. But such a delightful age; too young to be arrogant but old enough to get really excited about finding cool rocks. I've found the teachers to be thrilled to have someone come in to their class and share their knowledge.

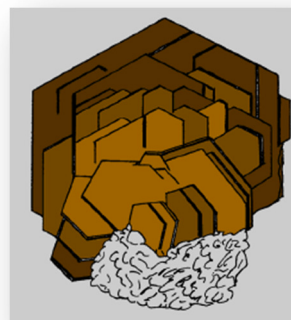
EFMLS News --September, 2015

HOW TOUGH IS A MINERAL?

Darryl Powell

Mineralogists use a collection of special words to describe "how tough" a mineral is. These words describe how a mineral will break, crumble, split, bend or in some way change shape. Mineralogists call this **tenacity**. Have you seen any of these properties in the minerals in your collection?

Elastic--A mineral is elastic when it is bent a little and, when you let it go, it returns to its original shape. Mica minerals like muscovite, biotite, phlogopite, and lepidolite show this property very, very well. Get a thin piece of mica and try it out yourself!



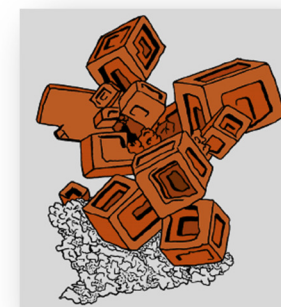
Malleable--A mineral is malleable when it can be hammered into very thin sheets without breaking. Metallic minerals, all of which are native elements, are malleable. The malleable minerals are gold, silver, copper, and platinum.

Ductile--A mineral is ductile when it can be stretched into long wires. Minerals that are malleable are also ductile. so, the ductile



minerals are gold, silver, copper, and platinum.

Friable--A mineral is friable if it crumbles easily. Some marcasite specimens are friable when they begin to break down (a process called sulfur decay.)

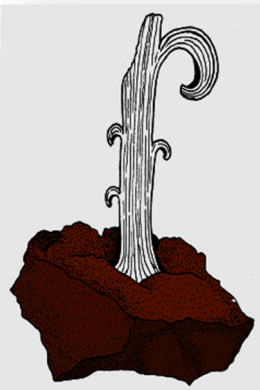


Sectile--A mineral is sectile if it can be cut into shavings with a sharp knife blade. Gypsum can be sectile.

Fragile--A mineral is fragile if it breaks into pieces easily. This can apply to a number of different minerals including gypsum, calcite, fluorite, etc.

Mini Miners Monthly—

June 2012



HAVING FUN AT THE JUNE 2015 CLUB PICNIC
Photos by Joan Glover



Mini Miners Monthly

DANGEROUSLY GREEN

By Emma Fajcz

In the mineral world, there are many beautiful green minerals, like diopside, malachite, and olivine. However, some green minerals not only have a spectacular appearance, but also have a fascinating danger to them. In this article, I will be examining torbernite, autunite, uranocircite, and each of these minerals' paramorphs: meta-torbernite, meta-autunite, and metauranocircite.



Torbernite's distinctive crystals have earned it the nickname "Green Wulfenite."



Meta-torbernite, the paramorph of torbernite, is radioactive, like its cousin torbernite.

These minerals are regarded as dangerous because of their radioactivity. This phenomenon occurs when unstable atoms composing an element give off energy in the form of radiation.

The atoms are unstable because the forces that hold the atom's center together are too weak. Radiation is the energy, which can be in form of an alpha particle, beta particle, or gamma

ray. All three of these types of radiation can be dangerous to humans and even cause cancer.

Think of an alpha particle, beta particle, or gamma ray each as a little bullet. The unstable atom shoots out one of these types of little bullets in all directions. Alpha particles are the weakest; betas are a bit stronger; and gamma rays are the strongest. If one of these "bullets" comes in contact with a person, they probably will kill some of that person's cells. Generally speaking, this isn't too bad, as long as radiation is kept below dangerous levels, because millions of cells die in your body each day anyway. However, radiation can sometimes damage the DNA in a cell instead of killing it, which can cause cancer. That's why radiation is so dangerous.

Despite these specimens' radioactivity, we can still admire them. Torbernite, autunite, uranocircite, and their paramorphs all contain the radioactive element uranium, and can be found in granite. Another interesting fact is that minerals containing uranium are usually green or yellow, which is probably why all four of these are such spectacular shades of green.



This autunite specimen is a beautiful example of autunite's crystal structure and fascinating color.

All photos by Rob Lavinsky, CC BY-SA 3.0 via Wikimedia Commons (Public Domain)

Torbernite can be used as an ore for uranium, but is more commonly used as an eye-catching collector's specimen. Its exclusive green color helps in torbernite's identification. In addition to torbernite's radioactivity from uranium, this mineral emits the carcinogen, or cancer-causing substance, radon gas. That's why it is recommended that they be kept in clear containers to trap the gas or at least in well-ventilated rooms where people don't usually spend a lot of time.

Another interesting feature of torbernite is its dehydration. Each torbernite molecule contains about eight to twelve water molecules. Over time, the water leaves the specimen, dehydrating it into the pseudomorph meta-torbernite. A pseudomorph is a mineral that keeps its original shape but is replaced by a different mineral. In this case, though, torbernite isn't being replaced by a different mineral; its molecules are just being slightly changed, which alters the chemical composition enough for it to be considered a different mineral. Therefore, it should be technically called a paramorph.

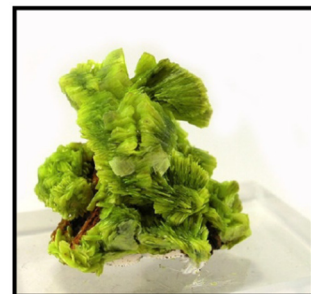
Autunite, which is similar to torbernite, is composed of nearly fifty percent uranium. Although it was discovered in France in the mid nineteenth century, some of the best autunite comes from the state of Washington. Like torbernite, it also dehydrates into a paramorph called meta-autunite. To avoid this dehydration process, some museums have coated autunite specimens in lacquer. Both autunite and meta-autunite are fluorescent; under ultraviolet light, they glow yellow-green.

Like torbernite and autunite, uranocircite also contains significant concentrations of uranium and eventually dehydrates into meta-uranocircite. Uranocircite is actually a very soft mineral, like autunite and torbernite; its Moh's hardness is around 2 to 2.5. This means that you can scratch it with your fingernail. Like autunite, it is also fluorescent under ultraviolet light. However, it glows greener than autunite.

Now that you know a little bit about three different radioactive uranium minerals, take a look in some mineral books this month to see if you can discover any more interesting facts about these minerals, or about some other uranium minerals. Try looking for these minerals the next time you visit a mineral museum.



The thin, flaky-looking crystals of this meta-autunite



Uranocircite's brilliant green color is due to a composition of almost fifty percent uranium.

Mini Miners Monthly—August 2015

First Class Mail

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Club Meeting

Tuesday
September 8, 2015
7:00 PM

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