The official bulletin of the Dothan Gem & Mineral Club, Inc.

Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

May 2017

Streak: Colorless **Emerald** Mohs: 7.5 to 8

Words from…

The President

Some of our folks went to the Alabama Gold Camp last month. While none of them struck it rich, everyone said they had a fun time. Be sure to check out the pictures from the camp. For those of us who enjoy a dig at Hogg Mine, there will be two digs a month this summer. The next three will be May 27, June 10 and June 24.

The club has been invited to display some of our gems, minerals and rock-related projects at the Ann Rudd Art Center, on the square in Ozark. The Center is hosting a "Back to the Garden" nature show, so we will be setting up a window display this month. The show will exhibit art with a nature theme—to include geology—and will run through July 8th. If you get a chance to stop by and look, the window should be set up by the end of the month.

The SFMS raffle tickets are now on sale. They are $5 each or 5 for $20. Go to the SFMS website to see the types of prizes these tickets can get you. If you are interested, catch me at next meeting or send me an email. The ticket stubs will be sent to the SFMS at the beginning of October, so you still have plenty of time to get them.

Hope to see everyone at the 28 May meeting.

Pat

Announcement

Summer Socials - Unlike previous years, we will **not** be having monthly summer socials this year due to the low participation rates. Instead, we will be holding working groups designed to tackle challenging issues such as classes, speakers, and membership. Meeting dates and times are yet to be determined, but will be posted on the website and sent to everyone by email.

Upcoming Shows

MAY 20 – 21	**Harrison County Gem & Mineral Society**	**Biloxi, MS**
JUNE 3	**Greensboro Gem & Mineral Club**	**Colfax, NC**
JUNE 3 – 4	**Alabama Mineral & Lapidary Society (Tannehill)**	**McCalla, AL**

Source: http://www.amfed.org/sfms/club-shows-456.html

Meeting Minutes – April 2017 – by Secretary

CALL TO ORDER AND COLD OPEN: The meeting was called to order at 2:11 PM by President Pat LeDuc. There were 11 members and no guests. Happy birthdays were wished.

INTRODUCTORY REMARKS: SFMS has sent us 100 tickets for the annual raffle benefiting their Workshop Scholarship Program. The drawing will be held at the annual meeting. Cost is $5.00 per ticket or five tickets for $20. Pat also had a handout and info for the Huntsville Gem and Mineral Society auction on 4/29/17. Pat told us that she received thanks and compliments from almost all the vendors at the show. Arnie Lambert gave us an update on Grady and Esther Dunn, who are continuing to experience some significant health problems.

CORRESPONDENCE: AFMS Newsletter.

MINUTES & TREASURER'S REPORT: Minutes from the last meeting were approved and seconded. Diane Rodenhizer presented the Treasurer's Report. It appears the club will remain in the black this year, thanks in part to the success of the 2017 show. The Silent Auction was the most profitable event, soundly beating the raffle by over 3 to 1.

SHOW BUSINESS: As we reviewed and discussed the 2017 Show, we learned the Mobile club and some Georgia clubs are now planning silent auctions based on our model. Our regional president, Phil Kaiser, Jr., kindly complimented our newsletter, website and show when he spoke to Pat. Joan Blackwell reminded the club that we need to make a point of getting full name and address info about all raffle winners so it can be published in the newsletter. Folks are interested in hearing who won and it will help protect the club from spurious accusations of fiscal misconduct. We seem to have more kids every year, so the question of resurrecting the Kids Korner was discussed. Kids Korner is popular, but requires space and people to monitor the little nippers. It was decided that next year we should be prepare more grab bags for the kiddos. If need be, grab bag pieces can be bought online in bulk.

From the informal polling we did with attendees, we learned the radio spots and our banner/lawn signs were quite effective. The Highland Games brought us business, as well. For next year it was suggested we invite one of the radio stations to visit for live broadcasts, and that TV reporters be asked to produce "Local Color" broadcast pieces. Likewise the local newspapers should be encouraged to do stories. More, larger and better banners are also needed, especially a BIG banner for the front of the building. The possibility of having a club publicity officer should be considered.

Jeff DeRoche, Show Chairman, told us that our contact at the Farm Center will be retiring soon and that the fees charged for the show weekend might go up substantially next year. Compared to other area clubs, we are the only club not charging admission and our tables are by far the lowest price. We do not require a minimum commitment to a set number of tables, or even a commitment to sell both days. Our show is popular and has been selling out, so Jeff wants to start going after specific vendors that add interest and variety to the show.

NEW BUSINESS: Arnie and JoAn Lambert, along with Jeff, have recently been presenting Kids Programs at the church, local schools and the Ozark town library. Jeff may be taking over some of those presentations in the future. Pat passed on a tip about the Ann Rudd Center in Ozark. There is a nature-themed show opening at the center in late May and a display in one of the windows facing the street would be nice fit for the club. The idea of getting speakers was raised and will be discussed later.

Pat suggested the club move to a modified meeting format for the summer. Instead of the Summer Socials, she proposed we have meetings to discuss club-related topics such as membership, club events, activities and promoting/publicizing the club. A motion and a vote were not taken on this suggestion, in part due to low attendance at today's meeting.

PROGRAM AND SHOW & TELL: Jeff said he is not giving up his day job to pan for gold. He got a few tiny garnets, but no gold to speak of. Same for Garry Shirah, but he does plan to go back. Arnie, JoAn, and Pat brought Show & Tell pieces to share with us.

The meeting wrapped up with food and the presentation of this month's door prize, which went to John Webber.

-- Respectfully submitted by B. Fizzell

Lapis Lazuli

By Leslie Malakowsky

This article was inspired by a polished specimen that an HGMS member brought to "show-and-tell" night!

Lapis lazuli (/ˈlæpɪs ˈlæzjuːli/), or lapis for short, is a semi-precious stone prized since antiquity for its intense deep blue color.

Lapis is a rock that consists of a mixture of minerals. An essential component mineral is lazurite, a *feldspathoid* and a member of the sodalite group of silicate minerals with the formula Na3Ca(Si3Al3)O12S. (Feldspathoids are a group of tectosilicate minerals that resemble feldspars but have a different structure and much lower silica content.) But the species lazurite is ultra-rare and there are no known specimens of pure lazurite.

All occurrences of lapis consist of additional feldspathoids such as hauyne, vladimirivanovite, and afghanite. Some samples can also consist of other silicates such as augite, diopside and enstatite. But the most common mineral component is hauyne, a sulphur-rich member of the sodalite group with the formula Na3Ca(Si3Al3)O12(SO4).

Sulphur is the chemical that causes lapis' deep blue color. Most lapis also contains (in varying amounts) calcite (white), sodalite (blue), and pyrite (metallic yellow).

The variety known as "denim lapis" has an even distribution of calcite that causes the blue color to resemble denim fabric. The variety known as "Chilean lapis" is flecked with golden pyrite.

Lapis is a rock, so there's no crystal system, but lazurite frequently occurs as dodecahedra. Other physical properties are: crystal habit: compact/massive; fracture: irregular/uneven/conchoidal; hardness: 5 – 5.5 on Moh's scale; luster: dull/sub-vitreous/greasy; transparency: opaque; streak: light blue; specific gravity: 2.7 – 2.9; refractive index: 1.5. Lapis also takes an excellent polish.

Lapis usually occurs in crystalline marble as a result of *contact* metamorphism. Marble is metamorphosed limestone that consists of recrystallized carbonate minerals such as calcite or dolomite. Contact metamorphism typically occurs around new igneous rocks as they intrude into cooler native rock.

Historically, the name “lapis lazuli” was used to describe hauyne and the rock that consists predominantly of hauyne plus calcite, sodalite, and pyrite. Today, the name is used to describe the material that we use as a decorative stone rather than its mineral content.

Through time, the name has come to be associated with the stone’s blue color, and the word for blue in many languages is derived from this name. For example, *azure* (English), *azur* (French), *azzurro* (Italian), *lazur* (Polish), *azur* and *azuriu* (Romanian), *azul* (Portuguese and Spanish), and *azúr* (Hungarian). *Lapis* is the Latin word for "stone".

Lazuli is from the Medieval Latin word *lazulum*. Lazulum comes from the Persian word *lājawardi*s, meaning “blue”. It is also the name of a place where lapis lazuli was mined in Persia.

The earliest *published* use of the name is in The History of Gems and Stones, published in 1609. This book was one of the most influential texts on minerals in the seventeenth century. The author, Anselmus Boetus de Boodt, a Flemish mineralogist and naturalist, was an avid mineral collector whose travels to various mining regions in Europe formed the basis of his book. (De Boodt, who with German-born Georgius Agricola, was responsible for establishing modern mineralogy.)

Lapis was mined for 6,000 years from limestone caves in Sar-e-Sang in the Kokcha River valley of the Hindu Kush Mountains in Northeast Afghanistan. It spread throughout the prehistoric world through trade. Lapis beads have been found at Neolithic burials in Mehrgarh, the Caucasus and Mauritania. Lapis was highly valued by the Indus Valley Civilization, the ancient Egyptians and Mesopotamians, and the later Greeks and Romans.

In ancient Egypt, lapis was a favorite stone of royalty made into amulets and ornaments such as scarabs. It was used to decorate the funeral mask of the Egyptian pharaoh Tutankhamun (1341–23 BC). At the end of the Middle Ages, lapis lazuli was exported to Europe, where it was ground into powder and made into ultramarine, the finest and most expensive blue pigment of the time. Ultramarine was used in frescoes and oil paintings by some of the most important artists of the Renaissance and Baroque periods, including Masaccio, Perugino, Titian and Vermeer. They often reserved ultramarine for the clothing of their central figures, especially the Virgin Mary. This practice ended in the early 19th century when a synthetic variety of ultramarine became available.

Today, mines in Northeast Afghanistan are still a major source of lapis. Additional major sources are Pakistan, Russia (West of Lake Baikal) and Chile (in the Andes mountains). Lesser sources are Angola, Argentina, Burma, Canada, India, Italy, Mongolia and the United States (California and Colorado).

Lapis is popular for making jewelry (cabochons, pendants, beads and inlay) and decorative items such as carvings, boxes, small statues and vases. It is also commercially synthesized to make ultramarine and hydrous zinc phosphates (a commonly used corrosion inhibitor). Sometimes spinel, sodalite, or dyed jasper or howlite are substituted.

References: Wikipedia, *mindat.org*

Source: Rocket City Rocks & Gems Newsletter - Volume 49 No. 2 (February 2017)

Editor's Note: Additional photos have been added to the original article.

The Blue Flame

Lapis lazuli, characterized by its intense blue color, has been valued as an ornamental stone and pigment for more than 6,000 years.

The name is derived from the Persian word, *lazhward,* meaning "blue."

Like most of the world's lapis lazuli, this "Blue Flame" was mined high in a remote valley of Afghanistan's Hindu Kush Mountains and shipped out on the back of a mule. It was a gift of Ms. Jane Mitchell and Jeffrey Bland in 2015.

Weighing over 250 pounds, it is one of the largest and finest known pieces of gem-quality lapis lazuli.

Photo courtesy Lichtblick Fotodesign, Jürgen & Hiltrud Cullmann, Schwollen, Germany. Courtesy of Henn GmbH

Sources:

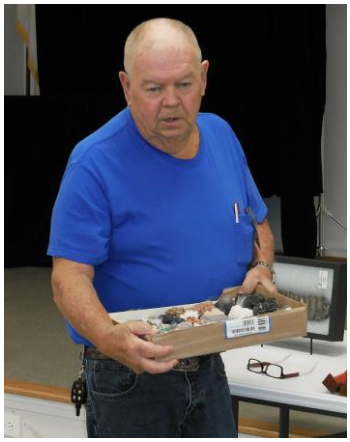
http://newsdesk.si.edu/photos/objects-wonder-lapis-lazuli

https://www.washingtonpost.com/express/wp/2017/03/09/a-new-exhibit-offers-a-peek-into-the-smithsonian-vaults/?utm_term=.215c09d1fc82

http://geogallery.si.edu/index.php/10026651/blue-flame-lapis-lazuli

Club Meeting – April 2017

Photos by Pat & Bruce



Gold Camp Dig – April 2017

Photos by Garry & Jeff

School Demonstration – May 2017

Photos by Pat & Bruce

Kid's Corner

How to Break Open a Geode!

There are several ways to break open geodes, but no matter how you do it, the key is PATIENCE, PATIENCE, PATIENCE…and SAFETY! Breaking rocks and cracking geodes can be dangerous. A small chip from the rock (or a hammer) can cause injury to anyone in the area. Use proper safety gear—especially eye protection—and make certain that you are not endangering others.

SOCK METHOD FOR YOUNG KIDS: This is the most popular method for small geodes that young children break open themselves. Place the geode in a sock and hit very lightly with a hammer. Since you are focusing the pressure on the geode in one spot, your chances of having the geode opening in two pieces are not as great compared to the hammer/chisel method (discussed below), but it is still possible. Just remember, don't swing the hammer as hard as you can. Tap lightly until the geode cracks open.

HAMMER/CHISEL METHOD FOR OLDER KIDS: This is the most popular way to open a geode since most people have a hammer and chisel available around the house. The hammer/chisel method can be used on all sizes of geodes and gives you much greater control than the sock method, so you are more likely to have your geode opened into two halves. However, if you want the geode to break into two halves, you absolutely CANNOT just hit the chisel as hard as you want to with the hammer! If the geode is hollow, you will be left with pieces in most cases, not two halves! It may take a little more time, but the end result will be worth it.

To open a geode with a hammer and chisel, score the geode all the way around the circumference of the geode with the chisel. It is best to use a flat-faced (regular) chisel end versus the pointed type, since the force from a pointed chisel will be directed over one spot versus over a larger area with the flat-faced chisel (better chances of opening along the line you want it to open on!). Continue this process until you see a crack develop in the geode, and then follow the crack around the geode until it opens. If the geode is hollow, and you know it is hollow, you must be very careful to not strike the chisel too hard with the hammer. Start lightly at first and then strike harder (but not too hard) if a crack is not developing.

PIPE CUTTER AND OTHER METHODS (ADULTS ONLY): Opening geodes with a soil pipe cutter is a more specialized method, and these tools are usually only found among the more advanced or serious collectors who have a large quantity of geodes to open. Pipe cutters have a chain that contains sharpened carbide-tipped roller blades that is wrapped around the geode and tightened. Unless the geode already has a crack in it (visible or not), the success rate for opening a geode into two nearly equal halves is very high with a pipe cutter and the process is very quick. Pipe cutters, however, are not usually cheap, and that is why they aren't used or available on a widespread basis. Virtually any tool that has carbide tipped blades and is designed to cut concrete or rock will also open geodes but make sure the blades are carbide tipped. Wet saws, concrete saws, and other related tools open geodes efficiently as well. SAFETY FIRST! Make sure you know how to operate these tools safely before using them. I hope this has helped you in opening your geodes!

Source: https://www.geodegallery.com/breakinggeodes.html

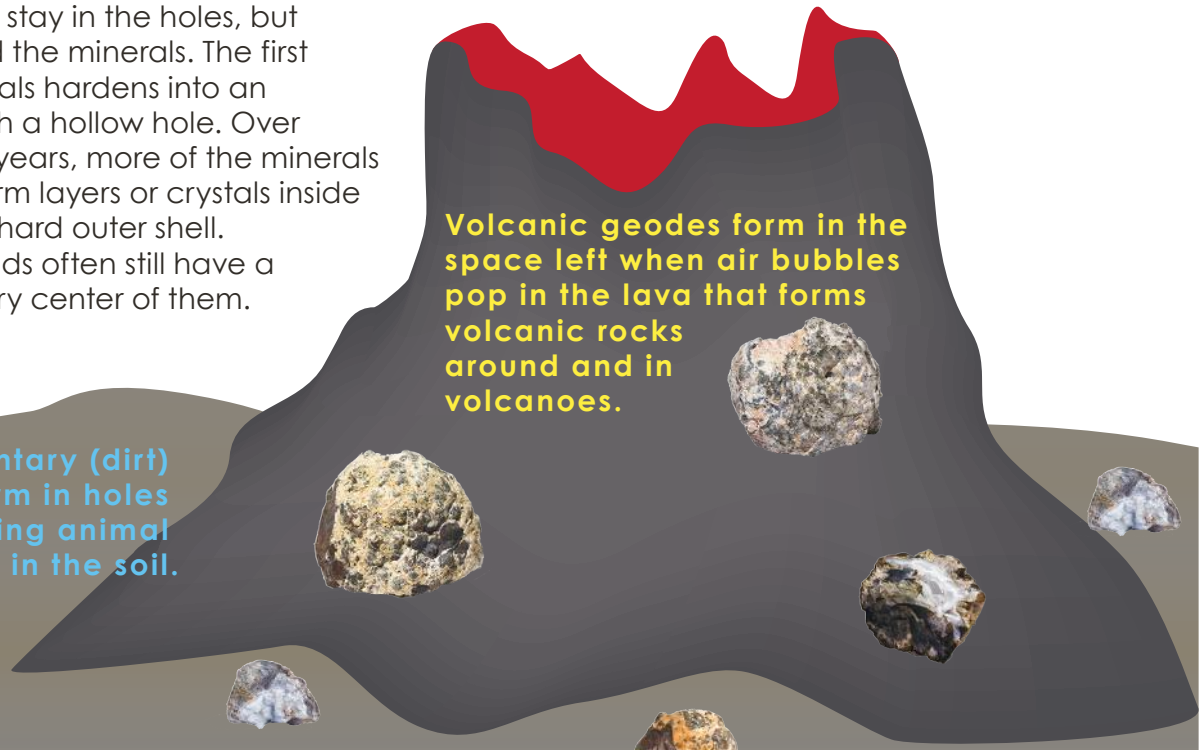
Geode Formation

It is fun to see if a geode has crystals or layers of color inside! The safest method to break a geode open is to place it in an old sock and gently hit it with a hammer. If you are careful, you can break them open in only two pieces.

Geodes are a type of rock that often have crystals or colorful mineral rings inside them.

Geodes form as two types: volcanic and sedimentary

Both types of geodes need pressure, time, and chemicals to form. Water and minerals fill holes in either volcanic rock that has formed from lava for volcanic geodes, or under the ground in holes left by decaying animal bodies for sedimentary geodes. The water doesn't stay in the holes, but leaves behind the minerals. The first layer of minerals hardens into an outer shell with a hollow hole. Over thousands of years, more of the minerals left behind form layers or crystals inside on top of the hard outer shell. The crystal kinds often still have a hole in the very center of them.



Volcanic geodes form in the space left when air bubbles pop in the lava that forms volcanic rocks around and in volcanoes.

Sedimentary (dirt) geodes form in holes left by decaying animal bodies deep in the soil.

What did you learn about geodes?

1. Volcanic geodes form in the space left when _____ pop in lava that forms volcanic rock.

2. Sedimentary geodes form in holes left by decaying animals deep in the _____.

3. The layers or crystals that form in geodes are made from _____ left behind by water that filled the holes in the soil or volcanic lava rocks.

Who What Where When Why How

May Birthdays

MAY 4 Joe Polakoski
MAY 8 Laural Meints
MAY 8 Joe Coody
MAY 14 Garry Shirah
MAY 21 Jason Saad

Random Rock Facts

Known as *streak*, the practice of using the finely crushed version of a mineral to aid in its identification is considered a more stable indicator than color in some instances. Though the great majority of minerals have a white streak, some minerals require use of a streak test for positive identification or when attempting to differentiate between two minerals with the same color, e.g., gold and chalcopyrite.

Counterintuitively, some minerals that occur in a range of colors have the same streak.

Source: http://geology.about.com/

Meeting Information

Time: 2:00 PM
Date: Fourth Sunday of each month (except June, July and August)
Place: Fellowship Hall – Tabernacle United Methodist Church
4205 S. Brannon Stand Road
Dothan, AL

Website: www.wiregrassrockhounds.com

Objectives

To stimulate interest in lapidary, earth science and, when necessary, other related fields.

To sponsor an educational program within the membership to increase the knowledge of its members in the properties, identifications and evaluations of rocks, minerals, fossils and other related subjects.

To cooperate and aid in the solution of its members' problems encountered in the Club's objectives.

To cooperate with other mineralogical and geological clubs and societies.

To arrange and conduct field trips to facilitate the collection of minerals.

To provide opportunity for exchange and exhibition of specimens and materials.

To conduct its affairs without profit and to refrain from using its assets for pecuniary benefit of any individual or group.

Classified Ads

Looking for an item to round out your rock collection?

Got a specimen, tool or handicraft for sale or trade?

Submit the pertinent details to me by the 10th of each month and your inclinations will be made known to the membership in the next bulletin.

N. J. Blackwell
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Annual Dues

Single $15
Family $20

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Show Chair – Jeff DeRoche
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Field Trips Chair – Garry Shirah
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Hospitality Chair – Vacant

Club Hostess – Vacant

Club Liaison – Garry Shirah
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Refreshments

MAY 28 – Potluck Refreshments

ROCKHOUNDS HERALD
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Where you might hear…

Zeolites – *a popular group of minerals for collectors and an important group of minerals for industrial and other purposes* – typically form in the cavities (or vesicles) of volcanic rocks. The result of very low grade metamorphism, some form from just subtle amounts of heat and pressure and can just barely be called metamorphic, while others are found in obviously metamorphic regimes.

Zeolites have basically three different structural variations:

- Chain-like structures whose minerals form acicular or needle-like prismatic crystals, i.e., natrolite.
- Sheet-like structures where the crystals are flattened platy or tabular with usually good basal cleavages, i.e., heulandite.
- Framework structures where the crystals are more equant in dimensions, i.e., Chabazite.

There are about 45 natural minerals that are recognized members of the Zeolite Group.

Source: http://www.galleries.com/Zeolite_Group

Member of
Southeast Federation of Mineralogical Societies, Inc.
American Federation of Mineralogical Societies