

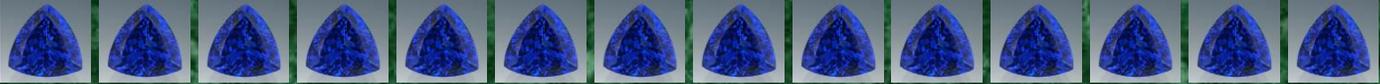
The official bulletin of the Dothan Gem & Mineral Club, Inc.

ROCKHOUNDS HERALD

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

December 2015



Words from...

The President

Our November meeting was fun and informative. As usual, we had a great Show & Tell and Arnie Lambert presented a fascinating program on florescent minerals. Who knew that those plain looking rocks could be so awesome? Arnie brought some really nice specimens that we were able to look at under short and long wave UV light. He also had some beautiful photographs of the specimens. It was a great talk and slide show. Thanks Arnie.

Bruce Fizzell, Kat Wainwright, and I headed to Montgomery on Saturday the 6th for the gem & mineral show. It was a really nice show. We bought a few things, ran into several of our fellow club members and chatted with many of the vendors. They had quite a bit of foot traffic and everyone seemed to be enjoying themselves.

We voted to have our Christmas party during our regular meeting time in December. We will be doing a gift exchange so if you would like to participate, bring a gift. The gift limit is \$15. JoAn Lambert volunteered to take care of the ham, so bring along your favorite side, salad, or dessert.

Hope to see everyone at 2 PM on December 27th for the party.

Pat

Announcements

Gem Tree Class – The first class gem tree class is scheduled immediately following our meeting on January 24th. Bring your wirecutter, pliers, glue (E6000 is recommended), pink and white shells, and gold wire (28 or 26 weight). Arnie has a selection of items for the tree bases, but if you already have something you'd like to use, bring it along. For questions, call JoAn Lambert at 334-792-7116.

Membership Dues – Time again to pay your annual club dues. Diane Rodenhizer will be accepting checks and cash from now until the February 28 meeting. If you can't make it to the Christmas party or at least one of the next two meetings, please send a check (no cash, please) to: Diane Rodenhizer, 478 Private Road 1106, Enterprise, AL 36330.

Upcoming Shows

January 8 – 10	Pinellas Geological Society	Largo, FL
January 16 – 17	Tomoka Gem & Mineral Society	Deland, FL
January 24 – 25	Panama City Gem and Mineral Society	Panama City, FL

Source: <http://www.amfed.org/sfms/> and <http://www.the-vug.com/educate-and-inform/mineral-shows/>

Meeting Minutes – November 2015 – by Secretary

The meeting was called to order at 14:07 by President Pat LeDuc. There were 22 club members and one guest in attendance. Our guest was Kat Wainwright, brought to you by our President. Happy birthdays were wished to all our November babies. Grady Dunn spoke to JoAn Lambert and said his wife, Esther, is doing fair in body, but somewhat less so in her mental state. We all send our thoughts and our prayers.

CORRESPONDENCE: AMFS Newsletter and nothing else.

REMINDERS: Sister clubs having a gem and mineral show within the coming month include Mobile (November 28 – 30) and Montgomery (December 4 – 6). Support them by attending, if possible.

MINUTES & TREASURER'S REPORT: Minutes from October were approved, as is. Diane Rodenhizer presented the latest of the thrilling treasurer's report series, which was also approved.

OLD BUSINESS: No old business, per se, was discussed.

SHOW BUSINESS: Again to stress: Members must book tables NOW for our show in March 2016. Please let Jeff DeRoche know how many tables you'll need as soon as possible. FYI, Jeff will be wearing a kilt or a skirt at our show in support of the Highland Games taking place at the Farm Center that same weekend. Any items you plan to donate for the Silent Auction and the grab bags should be provided to Jeff. He has offered to keep these at his shop until show time. Flyers were mentioned, but not discussed in detail, however, it was determined that we will need about 250 flyers all told. Bruce Fizzell will be printing and hand delivering some flyers to the Montgomery show on December 5.

NEW BUSINESS: The Christmas Party is scheduled to take place on our regular meeting day, Sunday, December 27 at 2:00 PM, but will be the usual social event and not a formal meeting. Funds were voted to buy "One Big A** Ham". Members are asked to bring salads, sides and sweets. JoAn will double check with the church and contact Pat if there is a problem with that date and time. We will have the Give a Gift, Take a Gift Exchange, with a \$15 maximum. In preparation for a Crafts Class in January, JoAn said that some of the pieces needed to make trees and blossoms could probably be found at the Montgomery show. The vendor she liked was "Russell's Trees". JoAn said she would try to pick up some extra supplies for people. The club voted as the usual Vigilante Posse to Shanghai members into Club service positions. The Posse acted quickly and before he knew it, Gary Shirrah had been duly and legally elected by a show of hands to be the new Field Trip Chair Person. Thanks Gary! All other club officers remained the same. Pat reminded us, however, that it very probable we will need someone to take over the Club Newsletter before the end of 2016. Barring unforeseen events, the current editor, Joan Blackwell, is expected to retire approximately the first week of July 2016 and will be moving to north Alabama.

PROGRAM AND SHOW & TELL: The programs for the month were informal. Arnie Lambert presented a short program with photos and actual samples of fluorescent rocks and such, including pieces from New Jersey. All looked like garden variety rocks until viewed under short or long wave UV light. Very trippy! We all really grooved on Arnie's black light Grateful Dead posters. Ben Childress had a few pieces of dead plants and animals that had been totally fossilized into stone! A reminder, as if any was needed, of the phenomenal power of time and pressure. Back from college, Jeff's daughter, Miss Courtney, told us about her Climate Change Class and showed us some photos of ice core samples.

The meeting wrapped up with food and the presentation of door prizes. The door prize went to Gary!

Respectfully submitted by B. Fizzell

Mineral Resources of the Inland Basins: Region 2



Mineral Deposit Processes

The major mineral deposits of the Inland Basins region include sulfide and nonsulfide minerals associated with hydrothermal processes, and salt formed as sedimentary precipitates. Occurrences of lead and zinc deposits (often in association with barite and fluorite deposits) are widespread throughout much of the Appalachian Basin, but are larger and more abundant in the Valley and Ridge province, where thrust faults and other structures provided pathways for fluid migration and sites for ore deposit formation. The hydrothermal fluids that formed these deposits may have originated in the thrust sheets of the Acadian and Alleghanian mountain building events to the east. A vast reservoir of sedimentary rocks was deposited in the Inland Basins region, mostly in the Paleozoic inland sea. Extensive

deposition of evaporite salts in the shallow sea at the northern end of the Appalachian Basin occurred during the Silurian, and locally at other times.



Figure 5.14: Principal current mineral-producing localities of the Inland Basins Region. Figure adapted from [1998 United States Geological Survey State Mineral Information](#).

Weathering and erosion have also been important processes in the formation of mineral deposits in the Appalachian Basin. Chemical weathering of limestone and dolostone have formed numerous small deposits of iron, manganese, and bauxite at the surface, and concentrated lower grade hydrothermal deposits of barite.

Metallic Mineral Deposits

Extensive deposits of lead, zinc, fluorite, and barite minerals occur in Cambrian and Ordovician dolostones along the eastern margin of the Valley and Ridge from south of Bethlehem, Pennsylvania, through western Virginia and eastern Tennessee, and into northern Georgia. Important mining districts include the Austinville-Ivanhoe District of Virginia and the Mascot-Jefferson District of Tennessee (Figure 5.15). The last of the Virginia mines closed in 1984, but mining continues in eastern Tennessee, and barite is still mined from the lower grade lead-zinc deposits of the Cartersville District in northern Georgia. These deposits vary widely in their relative proportions of lead and zinc sulfides, pyrite and chalcopyrite, fluorite and barite. They generally develop as a result of hydrothermal fluids migrating along zones of higher permeability, bedding, karst, fractures and faults.

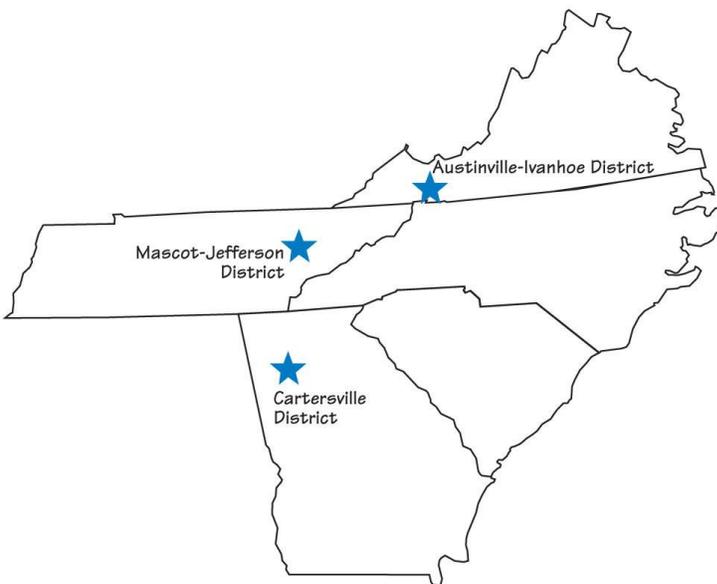


Figure 5.15: Significant lead, zinc, fluorite, and barite deposits are found in Virginia, Tennessee, and Georgia.

Historic Wythe County, VA, Mine

Production ended at the oldest continuously operating mines in the United States on December 31, 1981. New Jersey Zinc Company permanently closed the lead and zinc works in southern Wythe County, Virginia, ending a 225-year history that included a vital role in two early chapters in United States history.

The Wythe County lead mines were opened in 1756 by Colonel John Chiswell, a British officer who discovered the lead deposits while hiding in a cave near the New River to escape pursuing Indians. The mines were an important source of lead shot ammunition for the Colonial Army during the American Revolution. The workings were expanded from 1775-1781 to meet the growing demand of the Continental army.

The mines were also a critical resource for the Confederacy during the Civil War. Essential war mineral resources included salt, iron, niter (saltpeter), and lead to make bullets. Reports suggest that about 3,500,000 pounds of lead were produced at the Wythe County mines during the Civil War, amounting to one-third of the estimated 10,000,000 pounds of lead consumed by the entire Confederacy in the manufacture of 150,000,000 cartridges.

Widespread deposits of sedimentary iron in the Inland Basins region range in age from Cambrian to Pennsylvanian. The most extensive iron ore deposits in the Southeast are the middle Silurian Clinton Formation deposits and equivalents that extend along the eastern side of the Appalachian Basin from New York to Alabama (Figure 5.16). Iron weathered from the eroding Taconic Mountains was deposited in various forms along the edge of the ancient seaway to the west, and occurs as oxides, carbonates, and silicates in sandstones, shales, and limestones. Weathering increases the grade of the ores and makes them more easily mined. The Clinton iron ores are especially rich and thick near Birmingham, Alabama, where the dominant iron mineral is hematite.

Early Iron Furnaces

The first iron furnaces in the Southeast were built around 1765 in Virginia. Small furnaces appear in North Carolina in 1780, Tennessee and West Virginia in 1790, Kentucky in 1791, and in Alabama in 1815. The furnaces mined small iron deposits of various types locally, and obtained charcoal for fuel from the surrounding forests. The forges produced simple cast and wrought iron implements for local consumption.

Numerous small secondary iron deposits occur throughout the Inland Basins region. Most are the products of weathering, formed as iron oxide was concentrated as a residuum from carbonate rocks that were chemically weathered and eroded away. Some iron deposits are gossans, residual iron oxide deposits formed by the weathering of sulfide deposits at the surface. Small deposits of both types were mined in every state in the Southeast during the 1700s and 1800s to supply local forges that turned out small quantities of iron and steel for local markets.

Non-Metallic Mineral Deposits

Extensive evaporite deposits formed during the late Silurian in the shallow tropical sea at the northern end of the Appalachian Basin, and are present in the below the surface in northern West Virginia. Mississippian age halite deposits occur below the surface around Saltville, Virginia, where salt was first discovered in the Southern Appalachians in 1840 in a mine shaft at a depth of 215 feet.

Natural brines present as ancient seawater trapped in porous sedimentary rocks (aquifers) are present throughout the Inland Basins and contain in excess of 15% dissolved salts within 2000 feet of the surface throughout eastern Ohio, western West Virginia, and northeastern Kentucky. Rock salt is extracted by solution mining in the Saltville area of western Virginia. Although representing only a small fraction of total United States salt production, the proximity of salt, coal, and petroleum resources with good railroad and river access has resulted in the growth of an extensive chemical industry in West Virginia between Wheeling and Huntington along the Ohio River and in the Kanawha Valley.



Figure 5.16: The Clinton Iron Ore Formation extends through several Southeast states along the Appalachian Basin.

Kanawha Valley

Natural brines springs in the Kanawha Valley, near Charleston, West Virginia, formed salt licks that were extensively utilized by animals and later exploited by Native Americans, who boiled the brines to obtain salt. The Kanawha Licks near the town of Malden, West Virginia, became the center of a major colonial salt industry in the early 19th Century. Salt, a powerful antibacterial, was a critical commodity for curing butter and meats in the absence of refrigeration.

The Kanawha Valley salt industry reached a peak production of 3,224,786 bushels in 1846, and was one of the largest salt manufacturing centers in the United States. The Kanawha Valley was flooded in 1861 and severely damaged during the Civil War.

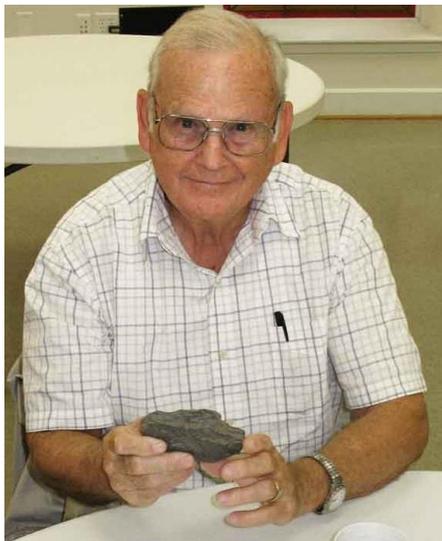
Demand for chemical products during World War I revitalized the Kanawha brine industry with the opening of the Warner-Klipstein Chemical Company plant in South Charleston in 1914 to produce chlorine and caustic acid. Now the Westvaco Chlorine Products Corporation, it is the largest chlorine producer in the world. Today West Virginia hosts three principal salt-producing companies: two in Marshall County and one in Tyler County. Most of the salt is consumed by a variety of chemical companies that have developed along the Kanawha River. Large reserves of subsurface halite remain.

Source: <http://www.geology.teacherfriendlyguide.org/index.php/minerals-se/region-2-inland-basins>

Picconi, J. E. 2003. The Teacher-Friendly Guide to the Geology of the Southeastern U.S. Paleontological Research Institution, Ithaca, NY.

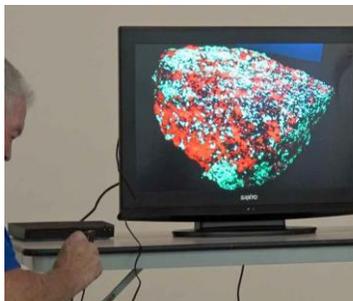
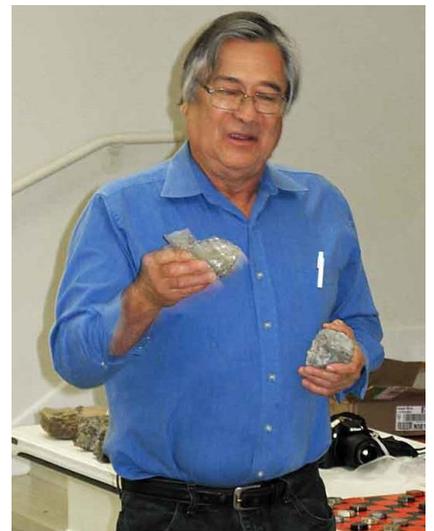
Club Meeting – November 2015

Photos by Pat & Bruce



Club Meeting – November 2015

Photos by Pat & Bruce



Lots of unusual items in Show & Tell.



Candy Crystals

Make your own mineral crystals and learn how some rocks and minerals are formed! When you mix hot water and sugar you make what is called a “super saturated solution”. This means the water can hold more sugar than usual because it is so hot. As the water cools the sugar “comes out” of the solution and forms crystals on your skewer. The skewer act as a “seed” or starting place for the sugar crystals to start to grow. This is how some minerals and rocks are formed (ex. calcite and limestone), as well as stalagmites.

Materials:

- Wooden skewer, clean popsicle stick, or clean wooden chopstick
- Tall narrow glass or jar
- Clothespin
- 1 cup of water per glass
- 2-3 cups of sugar per glass



Instructions:

1. Clip the skewer/popsicle stick/chopstick in the clothespin so that the stick is hanging inside the glass about 1 inch from the bottom of the glass. When you have the clothes pin at the right length, set the stick and clothespin aside for later.

ADULT SUPERVISION REQUIRED FOR FINAL STEPS!!

2. Pour the water into a pan and bring it to boil.

3. Pour about $\frac{1}{4}$ cup of sugar into the boiling water and stir until ALL of the sugar has dissolved.

4. Keep adding more sugar in small increments of about $\frac{1}{4}$ cup. Make sure that you take time to stir the mixture until it dissolves every time you add more sugar. Keep doing this until you cannot dissolve the sugar. NOTE: It will take longer for the sugar to dissolve each time you add more sugar, so you will have to be very patient when you get towards the end of the sugar. Once no more sugar will dissolve, remove it from heat and allow it to cool for at least 20 minutes.

5. Have the ADULT carefully pour the sugar solution into your jar so that it almost reaches the top (leave about $\frac{1}{2}$ an inch of free space). Place your stick-clothes pin contraption back into the glass, making sure that it is hanging straight down the middle without touching the sides.

6. Allow the jar to fully cool and put it someplace where it will not be disturbed. Let the solution sit for 3-7 days and watch your sugar crystals grow!

NOTE: If you want colored rock candy, add food coloring to your sugar water. For the best results, make the color very dark.

COLORING PAGE



This is an awesome specimen from the Ojuela mine, Mapimi, Durango, Mexico. The large, boxy crystals are wulfenite. Color them yellow. The round balls are mimetite. Color them light green. The rest is called *matrix* (that's just the rock on which the crystals are sitting). Color it rust red.

Who What Where When Why How

December Birthdays

DEC 6 Betsy Hibbits
DEC 9 Roger Boon
DEC 21 Esther Dunn
DEC 24 Mark Resavy

Random Rock Facts

The three birthstones associated with December are Tanzanite, Zircon, and Turquoise. Discovered in the late 1960s in Tanzania, and found exclusively in this tiny area of the world, *tanzanite* exhibits a rich violet-blue color for which the gemstone is treasured; often it is heat-treated to achieve this color. Colors range from blue to purple, and tanzanites that are medium dark in tone, vivid in saturation, and slightly violet blue command premium prices. As tanzanite can be less expensive than sapphire, it often was purchased as an alternative. However, it has increased in popularity and now is valued more for its own beauty and brilliance than as a sapphire substitute.



Reprinted with permission from the American Gem Society
Source: <http://www.americangemsociety.org/december-birthstones>

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

Officers

President – Pat LeDuc
334-806-5626

Vice President – Garry Shirah
334-671-4192

Secretary – Bruce Fizzell
334-577-4353

Treasurer – Diane Rodenhizer
334-447-3610

Bulletin Editor – Joan Blackwell
334-503-0308
Tfavorite7@aol.com

Webmaster – Pat LeDuc
334-806-5626

Membership Chair – Diane Rodenhizer
334-447-3610

Show Chair – Jeff DeRoche
334-673-3554

Field Trips Chair – Bruce Fizzell
334-577-4353

Hospitality Chair – Vacant

Club Hostess – Laural Meints
334-723-8019

Club Liaison – Garry Shirah
334-671-4192

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
28 Lakeview Trail, Apt. C
Daleville, AL 36322
Phone: 334-503-0308
Email: Tfavorite7@aol.com

Annual Dues

Single \$15
Family \$20

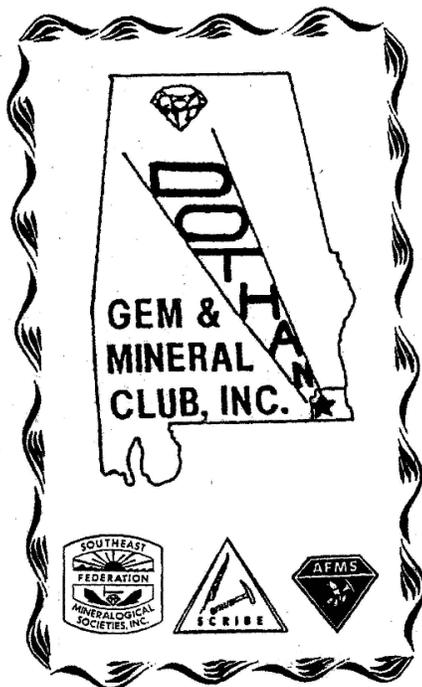
Refreshments

DEC 27 – Christmas Party

ROCKHOUNDS HERALD

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Where you might hear...

When looking at the gauge numbers of wire, it is normal to think: “the larger the number, the bigger the wire.” However, wire gauges actually work in reverse: “**the larger the number, the smaller the wire.**”

This is because all jewelry wire sizes begin at the number 0, and each time the wire is passed through a drawing die, it becomes smaller. So, a wire that is labeled as 22-gauge has been pulled 22 times, and it is 22 times smaller than its original size. The gauge equals the **diameter** of the wire, meaning the distance straight across its center.

In North America, the size of the holes in a wire-drawing die is based on a geometric formula developed in 1855 by the machine-tool company, Brown and Sharpe. This progression of 39 sizes is known as the American Wire Gauge (AWG). Other parts of the world may use the British Standard Wire Gauge (SWG), where the sizes are just a hair larger than those of the AWG.

Source: <http://www.wire-sculpture.com/jewelry-making-blog/6311/daily-wire-tip-what-gauge-of-wire-should-i-use-to-make-jewelry/>

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