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

Rockhounds Herald

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

January 2015

Words from…

The President

I hope that everyone had a Merry Christmas and a Happy New Year. We're starting 2015 with some new officers and 2 open positions, Hospitality Chair & Club Hostess. Until the positions are filled, I ask that everyone pitch in and help when needed. The meeting this month is on Sunday, January 25. We will start making plans for some workshops, field trips and summer socials.

Don't forget to mark your calendar for the Panama City Gem & Mineral Society Show happening on the 24th & 25th of this month. Like last year, it is being held in the Main Hall on the Bay County Fairgrounds at the intersection of East 15th Street and Sherman Avenue in Panama City. Support our sister club if you can.

The Southeastern Federation of Mineralogical Societies is having its quarterly meeting in Panama City on the 23rd & 24th of January. Since I had planned to go the Gem Show on the 24th, I will just pop down a day early and attend. This seems like it would be a good chance to meet people from our fellow clubs and expand our opportunities for joint digs & classes. I'll let you know what I learned at the SFMS meeting when we meet on the 25th.

Hope to see you on the 25th unless you are at the Panama City Show. Pat

Membership Dues

Folks, it is time once again to pay your annual dues. Diane Rodenhizer, our Treasurer/Membership Chair, will be collecting payments at the January and February meetings, or you can mail her a check at: **478 Private Road 1106, Enterprise, AL 36330.** In either case, **please be sure to submit your dues before the end of February**. The price remains the same: $15 for singles and $20 for a family.

Upcoming Shows

January 24 – 25	**Panama City Gem and Mineral Show**	**Panama City, FL**
February 7 – 8	**Central Brevard Rock and Gem Club**	**Merritt Island, FL**
February 28	**Imperial Bone Valley Gem, Mineral & Fossil Society**	**Lakeland, FL**

Source: www.amfed.org/sfms/club-shows-123.html

Christmas Party Recap – Dec 2014– by Secretary

We had two dozen club members attend the Christmas party. As usual we had enough food to feed all of us at least three times over. Before the festivities began, our club president, Jeff DeRoche told club members that our 2015 Gem & Mineral Show is completely sold out. Wow, he is doing a bang up job as the new Show Chair. Jeff said the early reminder cards that Diane Rodenhizer sent out really did the trick.

After all the chatting and eating we did the gift exchange. Gifts were selected by birthday month, which were randomly drawn by Joe Cody. After the gift exchange we spent more time gabbing about our various holiday plans. Some of us lingered around and began discussing some of the things we would like to do during the upcoming year. Joan Blackwell, our newsletter editor who has been in Huntsville for the past 6 months, popped in toward the end of the festivities. She will be back with the club in January.

Jeff thanked all the officers for their work throughout the year and also thanked those who volunteered to be club officers for 2015. He reminded us that January is dues month. As Diane is remaining Membership Chair, catch her at the January meeting to pay dues. We conducted the gavel exchange and new officers were installed for 2015.

Respectfully submitted by Pat Leduc

Learning Series Direction for 2015 – by Editor

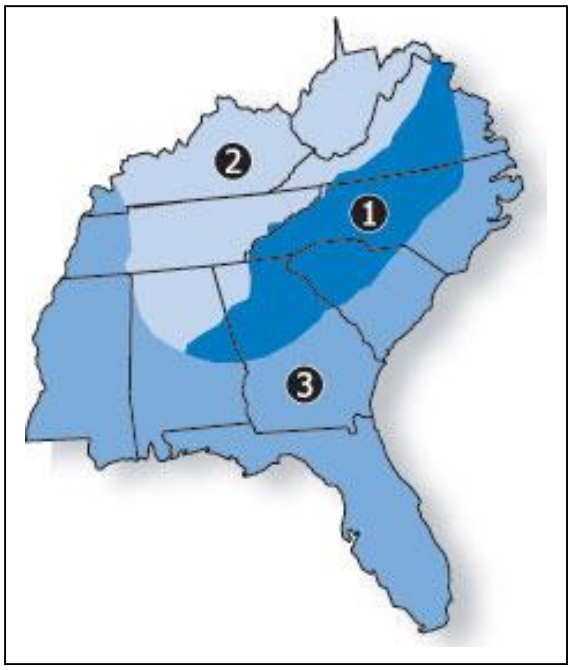
First, let me offer my apologies for the lateness of this month's newsletter. As most of you know, I've been away for the past six months on a temporary assignment for my "real job" and I've just returned from living in Huntsville, AL since July 2014. Prepping for my departure and then dealing with the chores of reestablishing a household upon my arrival home in south Alabama last week coincided with the timeframe when I would have normally been researching and laying out the newsletter. With only a limited number of hours in the day, I simply couldn't get it all done. Unfortunately, I had to move completing the newsletter to the bottom portion of my "To Do" list. Hopefully, now that I'm back and, more or less, settled in, I should be able to resume the usual schedule of sending out the newsletter the weekend prior to our monthly meetings. Fingers crossed.

So what can you expect to see in the ***Learning Series*** in 2015? We've just finished up a year-long look at the fossils that can be found in our neighboring states, so this year I plan to return to the basics: rocks. I've used snippets of information from ***The Teacher-Friendly Guide to the Geology of the Southeastern U.S.*** by J. E. Picconi in the past, usually in the "Random Rock Facts" section or the "Where you might hear…" section. This year, however, I want to provide you with a selection of the longer articles that provide a more in-depth look at the geology of the southeast. The material is divided up into three regions and I've selfishly chosen to begin with Region 2: Inland Basins because it covers the makeup of most of northern Alabama, where I've just spent the past six months.

Next we will look at Region 3: Coastal Plain which encompasses the southern half of our state where our club is based, and we'll finish off with Region 1: Blue Ridge & Piedmont which extends down from central Virginia, the western Carolinas and north Georgia before jutting partway into Alabama about mid-state. There's some really good information in the guide that explains how we came to have the rocks we have in this part of the world. I'm excited about it and I hope you will all enjoy reading about it for the next few months.

As always, however, I'd welcome your suggestions and your submissions. Joan

Learning Series: Rocks of the Southeastern U. S. – The BIG Picture



Region 1: Blue Ridge & Piedmont

Exposed in the Blue Ridge and Piedmont region are the remains of ancient mountains that preceded the Appalachians (the Taconic, Acadian and underlying Grenville Mountains), and igneous and metamorphic rocks formed during the Paleozoic mountain building events. In the Piedmont, Triassic-Jurassic rift basin deposits of sedimentary rock and interlayered basalt and diabase are exposed.

Region 2: Inland Basins

Sedimentary rocks are very abundant in the Inland Basins Region. For much of the Paleozoic this area was a shallow inland sea, the perfect environment for the deposition of thick layers of sand, silt, and clay to form sandstone, siltstone, and shale. The shells of abundant sea life were also deposited to form limestone. Sediment eroded from the Taconic and Acadian Mountains and was deposited in the inland sea basins. The rocks of the Inland Basins Region record the rise and fall of the Paleozoic inland ocean.

Region 3: Coastal Plain

Loose sediment that has not solidified to become rock dominates the geology of the Coastal Plain, although in older Cretaceous units there are some sedimentary rocks. Gravel, sand, silt, clay and carbonate sediment recording Cretaceous-Quaternary sea level rise and fall, form a wedge that thickens oceanward toward the Atlantic Ocean and Gulf of Mexico. Carbonate sediment is still being deposited in Southern Florida today.

Rocks of the Inland Basins: Region 2

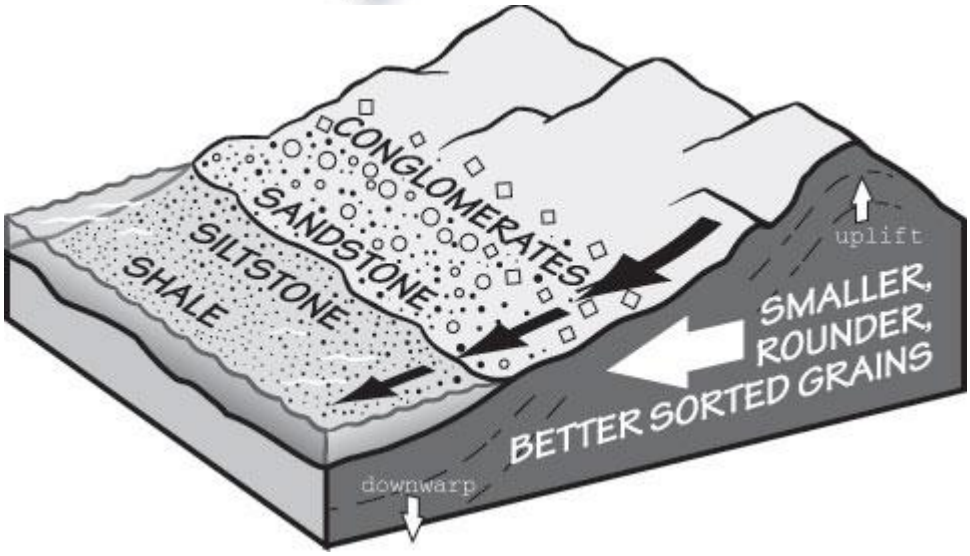


Figure 2.24: The typical sequence of rocks formed across a shallow continental basin at any given time may begin with conglomerate near the source, then sandstone, siltstone, shale, and limestone farther from the source. Limestones (including reefs) may give way to shales further out in deeper water.

Sedimentary rock dominates the Inland Basins region because an ocean covered the area for hundreds of millions of years and this area was inland from the pressures of continental collisions. Conglomerate, sandstone, siltstone, shale, limestone and dolostone are common rocks formed in an ocean and the bordering environments such as deltas, swamps, mud flats and tidal areas. One of the most important things to keep in mind as you read about the rocks of the Inland Basins region is that at any given time, different types of sediment were deposited in different parts of the inland ocean, and the ocean retreated and advanced many times (Figure 2.24). When

it drained from the continent, coastal environments advanced. Sandy sediment deposited by streams as coastal environments advanced, later became sandstone. When the seas advanced, mud was deposited in deeper waters and later became shale. The type of rock you see reflects a particular environment in which sediment accumulated. Just as there are different types of sedimentary environments (rivers, beaches, swamps, etc.) in the Southeast today, many different types of environments coexisted throughout geologic time. The challenge in understanding sedimentary rocks is to put all of the environments in which the rocks were formed together to understand what was happening in the region as a whole, and why certain types of sediment were deposited in particular places.

Different rocks forming in different environments

...but all at the same time!

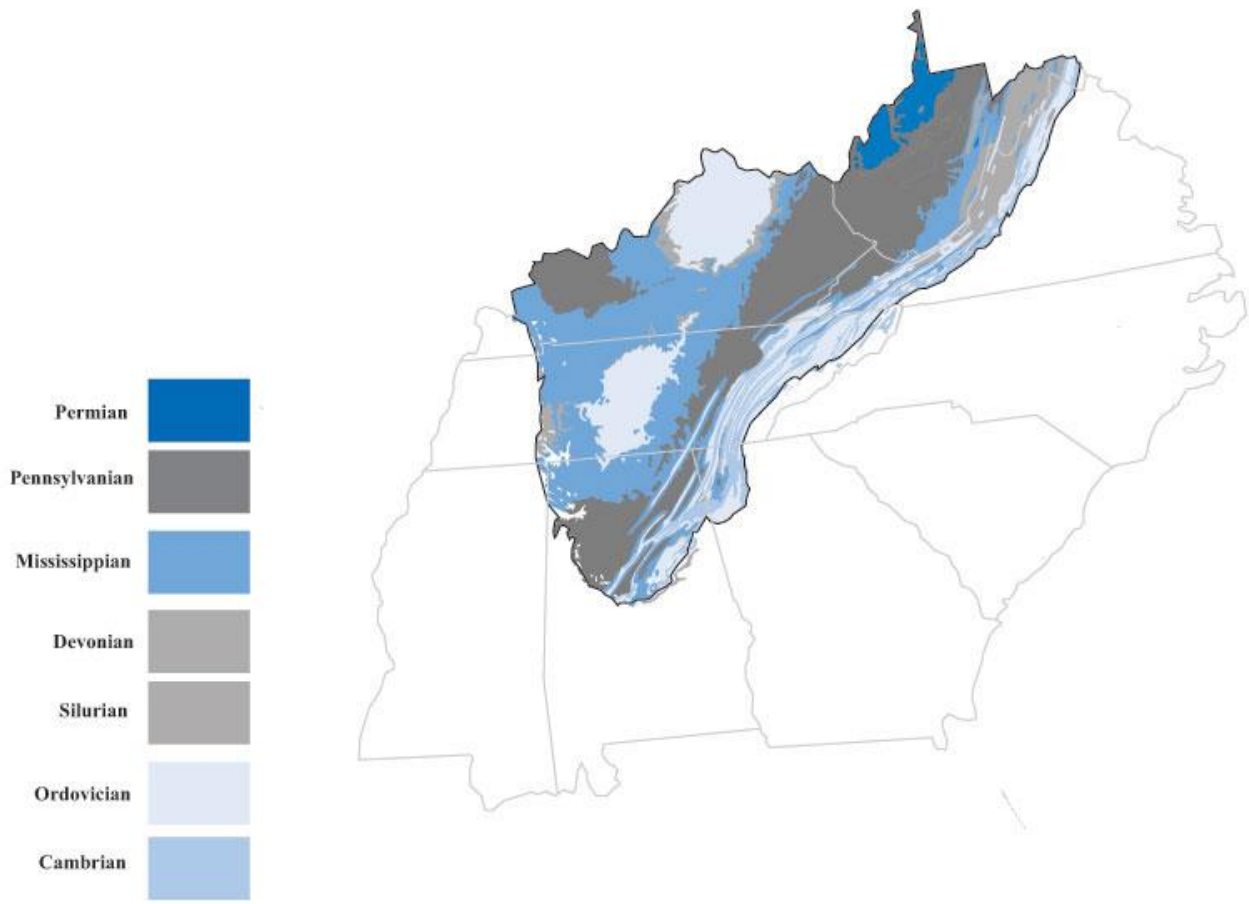


Figure 2.25: Physiographic divisions of the Inland Basins region.

As mountainous highlands erode, sediment is transported down the mountain by gravity and streams. Debris that has been transported a short distance and has not undergone very much weathering, forms coarse rocks like conglomerate when compacted and cemented.

Conglomerate is generally made of poorly sorted sediment, containing large pebbles, as well as finer material in between. If the sediment is transported a bit farther before being deposited it may undergo more wearing down along the way. Individual sediment grains are broken into more rounded, smaller grains, and the deposit becomes better sorted. Farther downstream from where conglomerate would form, sand is deposited, which later becomes sandstone. Sand also is deposited along coastlines on beaches and in estuaries. If you examine the sediment from the beach out to deep ocean, you will notice that beach deposits are mainly sandy, whereas finer grained silt is laid down in deeper water, and very fine-grained clay settles out of the deepest water, where currents are slow.

Limestone can accumulate in a slightly different way. Limestone accumulates in warm water where the rate of sediment being eroded from the highlands is low enough not to dilute accumulation of calcium carbonate, the material. In warm shallow waters, far from rivers, carbonate deposition is rapid because many organisms secrete calcium carbonate shells. These organisms tend to thrive in clear, warm, sunlit water. When the organisms died their shells became part of the limey sediment, which became limestone.

Since the Inland Basins Region was not at the center of the tectonic collisions during the Paleozoic, there are almost no igneous intrusions exposed at the surface and the rocks were not metamorphosed as they were in the Blue Ridge and Piedmont Region. The easternmost section of this region, however, called the Valley and Ridge, was squeezed into tight folds during the Taconic, Acadian, and Alleghanian mountain building events (Figure 2.25). Cambrian and Ordovician sandstone, carbonate and shale dominate the Valley and Ridge section. The Appalachian Plateau, the center section of the Inland Basins region, was broadly folded, as the effects of the mountain building events decreased to the west away from the collision. Pennsylvanian age sandstone, conglomerate, shale and coal dominate the Appalachian Plateau. The westernmost section of the Inland Basins is known as the Interior Lowlands Plateau. This section was minimally affected by the Paleozoic mountain building events and includes Ordovician to Pennsylvanian sedimentary rock.

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

Source: http://geology.teacherfriendlyguide.org/index.php/how-to-use-the-guide-se

Christmas Party – December 2014

Photos by Pat

Merry Christmas

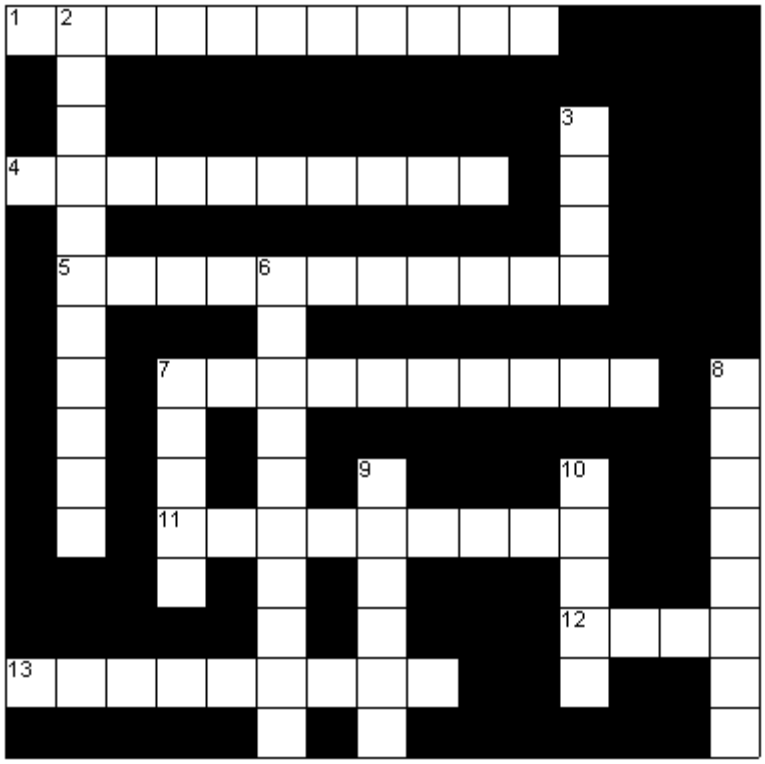
Christmas Party – December 2014

Photos by Pat

Kid's Corner

Crossword Puzzle #1 - Gemstones!

Here is a crossword puzzle to test your knowledge of gemstones. All the answers are the name of a gem, so it should be pretty easy. Have fun!



Across	Down
1 Color change gem 4 Named for a big cat 5 Iridescent feldspar 7 Some varieties of this gem resemble a melon 11 Known for its green and orange coloring 12 The premier red gemstone 13 Popular but rare, purple and blue gemstone	2 Name means “blue rock” 3 Famous for Chinese carvings 6 Blue gem related to the sea 7 Yellow, orange or brown gem 8 Purple quartz 9 Citrine is a variety of this common mineral 10 Comes from a shell fish

Source: www.gemsociety.org/article/wow-crossword-puzzle-1/

Minerals and Gems from the Earth

More than 4,000 naturally occurring **minerals**—inorganic solids that have a characteristic chemical composition and specific crystal structure—have been found on Earth. They are formed of simple molecules or individual elements arranged in repeating chains, sheets, or three-dimensional arrays.

Minerals are typically formed when molten rock, or magma, cools, or by separating out of mineral-rich water, such as that in underground caverns. In general, mineral particles are small, having formed within confined areas such as lava flows or between grains of sediments. Large crystals found in geodes and other rocks are relatively rare.

Rocks themselves are made of clusters or mixtures of minerals, and minerals and rocks affect landform development and form natural resources such as gold, tin, iron, marble, and granite. Silicates—including quartz, mica, olivine, and precious minerals such as emeralds—are the most common class of minerals, as well as the major components of most rocks. Oxides, sulfides, sulfates, carbonates, and halides are other major mineral classes.

Gemstones
Many minerals form beautiful crystals, but the most prized of all are **gemstones**. Uncut gems are often fairly ordinary looking. It's only when they are cut and polished that they obtain the brilliance and luster that makes them so valued.

Historically gems have been divided into precious and semiprecious classes. There are a number of semiprecious gems, many quite beautiful, but diamonds, rubies, sapphires, and emeralds continue to qualify as "precious." (At one time, amethyst was also considered a precious gem, but large reserves were later found in Brazil, reducing its value.)

Diamonds, made of carbon atoms, are the hardest natural substance found on Earth. Formed under extremely high pressure hundreds of miles underground, they are found in very few locations around the world. Graphite is also made of carbon atoms, but with a different arrangement—explaining why diamond is the hardest mineral and graphite (used in pencil lead) is one of the softest.

Rubies are formed of a mineral called corundum, comprised of aluminum oxide. The red color is caused by traces of chromium. Corundum also forms **sapphire** in many colors, which generally come from trace mixtures of iron, titanium, and chromium.

Emeralds are formed of a mineral called beryl whose chemical formula is a complex mix of beryllium, aluminum, silicon, and oxygen. The color comes from additional traces of chromium and vanadium. Different trace elements can produce other colors, allowing beryl to form semiprecious stones such as **aquamarine**.

Minerals and gems are classified by their physical properties, including hardness, luster, color, density, and magnetism. They're also identified by the ways in which they break, or the type of mark, or streak, that they leave when rubbed on a laboratory tool called a streak plate.

Source: http://science.nationalgeographic.com/science/earth/inside-the-earth/minerals-gems/

Across: 1. Alexandrite; 4. Tiger'seye; 5. Labradorite; 7. Tourmaline; 11. Adalusite; 12. Ruby; 13. Tanzanite;
Down: 2. Lapislazuli; 3. Jade; 6. Aquamarine; 7. Topaz; 8. Amethyst; 9. Quartz; 10. Pearl.

Who What Where When Why How

January Birthdays

JAN 1 Jaycee Gainey
JAN 1 Aida Ward
JAN 17 Barbara Gainey
JAN 20 Joan Blackwell
JAN 23 Terry Miller

Random Rock Facts

Garnet, the birthstone for January, signifies eternal friendship and trust is the perfect gift for a friend. *Garnet*, derived from the word *granatum,* means seed, and is called so because of the gemstone's resemblance to a pomegranate seed. References to the gemstone dates back to 3100 B.C., when the Egyptians used garnets as inlays jewelry. *Garnet* is the name of a group of minerals that comes in a rainbow of colors, from the deep red of the pyrope garnet to the vibrant green of tsavorites. Today, the most important sources for garnet are Africa, Sri Lanka, and India.

Reprinted with permission from the American Gem Society
Source: http://www.americangemsociety.org/january-birthstone

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

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
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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

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: Tsavorite7@aol.com

Annual Dues

Single $15
Family $20

Refreshments

JAN 23 – Potluck Refreshments

ROCKHOUNDS HERALD
Editor – N. J. Blackwell
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www.wiregrassrockhounds.com

DOTHAN GEM & MINERAL CLUB, INC.

Where you might hear…

The Giant's Causeway in County Antrim, Northern Ireland is a mass of tightly connected basalt columns resulting from an ancient volcanic eruption approximately 50 to 60 million years ago. The tops of the columns form stepping stones that lead from the cliff foot and disappear under the sea. Altogether there are 40,000 of these stone columns, mostly hexagonal but some with four, five, seven, and eight sides. The tallest are about 40 feet high, and the solidified lava in the cliffs is 90 feet thick in places. It is located on the northeast coast of Northern Ireland.

Source: www.gatorgirlrocks.com/resources/famous-rocks.html

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