

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

ROCKHOUNDS HERALD

920 Yorktown Road, Dothan, AL 36301-4372

www.wiregrassrockhounds.com

June 2013



Happy First Day of Summer



Words from...

The President

It was nice to see everyone who made it out for the May meeting, despite it being a holiday weekend. We had a great recap of the show, and I think I can safely say all the folks involved were pleased with how things turned out. Thanks again to everyone who helped make it such a great success. Also, thanks for the suggestions as to how we can make it an even better event next year. Those suggestions have been noted and will be added to the 2014 To Do list.

If you'll be traveling out west on vacation this summer, check out the Vug at www.the-vug.com/vug/vugshows.html. When it comes to shows, our southeast region is relatively quiet during June, July and August, but there are lots of events planned for other parts of the country.

Another site that might have something that interests you is www.rocktrading.org. The folks who run it say it was started to "trade rocks and share the love of rock hounding". They also say they'll be happy to promote anything rock-related, e.g., clubs, shows, shops and places to collect specimens. Check it out, but as always, exercise reasonable caution when trading with online businesses.

No meeting this month, since June begins our three-month summer break, but we do have socials planned throughout the summer. You'll find the details for the first one in the Announcements section below. As for the July and August socials, here's a timely head-up; we'll be hosting club-wide swap meets, so start culling your collections now. With all the fun activities coming up this summer, you don't want to wait until the last minute to gather a box of specimens you'd like to trade.

Look forward to seeing everyone at the Fellowship Hall on **Saturday, June 22.**

Jeff

Announcements

June Social – the first summer social will be held on **Saturday, June 22** at the Fellowship Hall. Bring a dish of your choice to share with the group. As usual we will meet at noon and eat at 1:00 PM. Also, for entertainment we will be playing bingo after we eat. Please bring something to donate for prizes.

Upcoming Shows

None on the schedule

Sources: <http://www.amfed.org/sfms/> and www.the-vug.com/vug/vugshows.html

Meeting Minutes – May 2013 – by Secretary

The meeting was called to order by club President, Jeff DeRoche, at 2:10 PM. Jeff wished our May members Happy Birthday. Despite the holiday weekend we had 28 people in attendance.

CORRESPONDENCE: The club received correspondence from the Gitche Gumee Agate and History Museum in Michigan. They have online rock hounding adventures and nice stuff for sale. You can check them out at <http://www.agatelady.com/> We also received the AMFS newsletter. Jeff passed out flyers for the Tannehill show happening June 1 – 2.

OLD BUSINESS: The March minutes were approved without changes. There were no April meeting, due to the show. Diane Rodenhizer presented the treasury report. Arnie Lambert gave us an update on the show. He said that the vendors were quite happy with the foot traffic and sales. Jeff and Arnie are going to negotiate with the city office to see if we can reserve the show venue for the same weekend every year. Since it takes several months to get announcements in the gem magazines, we need a set weekend to simplify the process.

NEW BUSINESS: Meredith Capshaw is stepping down as club VP for health reasons. Ann Trice volunteered to fill the position for the rest of the year. Jeff asked club members who still have signs to please bring them to one of the summer socials. Our summer socials will be held at the church hall on the 4th Saturday of June, July, and August. **The socials will be pot luck so bring your favorite food dish to share with the group.** As usual we will meet at 12:00 and eat at 1:00. **We will be playing bingo at the June social so please bring something to donate for prizes.**

During the July and August socials we will be having “Sell Your Extra Stuff”. You can bring any gems, minerals or rock-related things you want to sell or auction to other club members. Many of our members have multiples of everything so they would like to thin their stashes and give us first crack at enlarging ours.

Arnie also let the club members know that he and JoAn will be doing Science on Saturday at Landmark Park on August 2nd. Carlos Merino volunteered to give Arnie and JoAn a hand with the class. Anyone else from the club who wants to help out with the class will be welcome.

SHOW & TELL: Ken Wilson started off Show & Tell with some cabs he made from stones he got in Iron City. He also had some rock eggs he won at the Panama City meeting and a huge piece of gypsum from Oklahoma. Arnie brought some agate from Montana, some cabs he made, some beautiful Alabama seam agate, and two wire wraps that Janie Mae Schings helped him make. Bruce Fizzell and I brought some rocks we collected, postcards and pictures from our trip to the Grand Canyon of Georgia near the town of Lumpkin. Neil Pollan showed us a green stone with some evidence of cinnabar. None of us were sure exactly what it was. JoAn brought a beautiful wire wrapped Alabama agate cab that Arnie cut. L.J. Ward displayed some seam agate he got from a friend. He is going to take a trip to with his friend to find out where it originates and see if we can go there to collect. L.J. also reminded everyone that club members are always welcome to collect chert and druzi at his place.

PROGRAM: No program was presented, but Elliott Whitton brought a poster on the geological zones in Alabama. He said we have 17 different zones, more than any of the other states around us. Elliott also showed the groups some books titled Roadside Geology. They are available for many states, but no one has produced one for Alabama yet. We spent some time discussing different things the club can do for programs next year. We discussed having speakers at the meetings and having a mineral of the month to be featured in the newsletter and featured at our meeting Show & Tell.

While we don't have any trips planned at the moment, we did discuss planning some once the rivers dry up a bit. Ken said he would keep his eyes open for other opportunities to dig throughout the summer. I will send emails to our club members when digs or classes hit the calendar and I'll also post them on the club website. We milled around and socialized while enjoying refreshments graciously provided by Chris & Lisa Wisham. While socializing, 15 door prizes were given out and we discussed putting together a research folder of places to collect specimens in our area. Anyone who finds interesting places to go can print the information, bring it to our meetings and we will add it to the folder. Ken also said the Gold Prospector's Association of American is a good organization for research material. <http://www.goldprospectors.org/>

Respectfully submitted by Pat Leduc

Where Gems are Found and How they are Mined

An important distinction must be made between the place where a gem **forms**, and where it is mined or collected (these two, most often, are not the same). The places where we mine or collect gems are known as *gem deposits*, and these are classified as either primary or secondary.

Primary Deposits:

A primary deposit is one in which the sought-after material is still held within the original site of its formation. These "**lode**" deposits are often located deep underground, and encased in solid rock (pegmatites, veins, pipes, etc.) They are, in general, likely to require substantial monetary outlay in personnel and equipment for recovery.

Although metal ores (does the famous Comstock *Lode* come to mind?), are frequently mined from primary deposits, it is rarer with gemstones. In certain locations, though, diamonds, and colored gemstones can be profitably mined from such sites. Techniques involve either tunneling deep into the Earth, or using open pit technology necessitating removal of massive amounts of "overburden" to get to the deeper gem bearing layer.

A consideration which is important in this type of gem mining is that the typical blasting and crushing done with metal ore materials can harm fragile gem crystals, so that much of the work must be done by slower and more labor intensive hand work. Sapphires in the US, have been "hard-rock" mined, off and on (depending on economic factors) in Montana, primarily at Yogo Gulch. The deposit there consists of sapphire crystals in a lamproite pegmatite dike. Although they are some of the highest quality blue sapphires in the world, lacking color zoning, and possessing an "out of the ground" cornflower blue color that requires no heating, the extreme prices necessary to repay their mining costs limit their marketability.



[Yogo sapphires: before and after faceting. Yogos are among the most beautiful and expensive in the world: Images courtesy of www.foxfinejewelers.com]

Secondary Deposits:

Although a primary deposit may have been *formed* deep in the Earth, uplift, crust folding, or other geologic events can bring it to, or very near, the surface. All exposed surface features are subject to erosion and weathering, and this is true of gem deposits, as well. The agents of erosion will then act to release the gems from their primary sites, and they collect in new secondary deposits. Secondary deposits are classed as either *eluvial* or *alluvial* depending on their relationship to the original source.

Eluvial: When the softer, more easily weathering primary structures simply release the harder and tougher gem materials, and the gems can be found at the site of decomposition, the deposit is eluvial. The gems can then be located within the debris, and generally it will be a relatively inexpensive process to gather and remove them. Additionally, the host rocks, which may contain valuable primary deposits can usually be easily located for other types of mining.

Eluvial gem rough, although often large in size, tends to be internally fractured, and quite angular and irregular in shape, which can limit its potential as faceting material.

The world's largest peridot mine, located on the San Carlos Apache Reservation in Arizona, is an eluvial deposit where the peridot is weathering out of the volcanic basalt primary source.



[Images courtesy of Robert Drummond, www.mtlilygems.com]



[Arizona peridot eluvial rough, note fractured area and angularity of pieces]

Alluvial: More common, and in most cases, more desirable, are alluvial (also known as "placer") deposits. The gems in these have been transported from the original site of their release, usually by water, but also possibly by wind or ice. As most gems are both denser and harder than most rocks, they accumulate on the bottom along with gravel, sand and mud, in eddies and pools in streams, rivers and along coastlines. (They can also be found in sites that had flowing water in the past, but have long since dried up).

The abrasive and frictional forces that occur as the gems are moved downstream cause the weakest parts to break off, and the edges to become more smooth and rounded. Alluvial rough, though usually relatively small, is often of high clarity, and superior faceting quality. The longer the distance the rough has traveled, the smaller and more rounded it becomes. Alluvial diamonds are an exception to this rule, in that they are harder than the surrounding rocks, and unless fractured or cleaved retain their original structure and size.



[Australian spinel rough from an alluvial deposit]

By far, the greatest amount of economically profitable gem mining is done by exploiting secondary deposits. Techniques range from simple one person panning and screening operations, to large scale dredging and hydraulic washing/sorting by big companies.



Image courtesy of Crispin Huges



[Alluvial diamond miners in Sierra Leone, a collection of diamond rough from Arkansas, (the largest piece is under one carat) hand dug and screened from an eluvial deposit: Image courtesy of Kevin Jones]



[Tan Huong, Vietnam, ruby and spinel mine. Back hoes remove about six feet of soil then high pressure water is used to loosen the old buried stream bed so the miners can use screens and sluices: Image courtesy of www.gemsfromearth.com]

Within alluvial "gem gravels" several different types of gems may be found together, reflecting the various eroding primary sites within the local drainage area. Tracking back to the primary source of a particular gem ("*Mother Lode*") is usually very difficult, if not impossible.

Club Meeting – May 2013

Photos by Pat

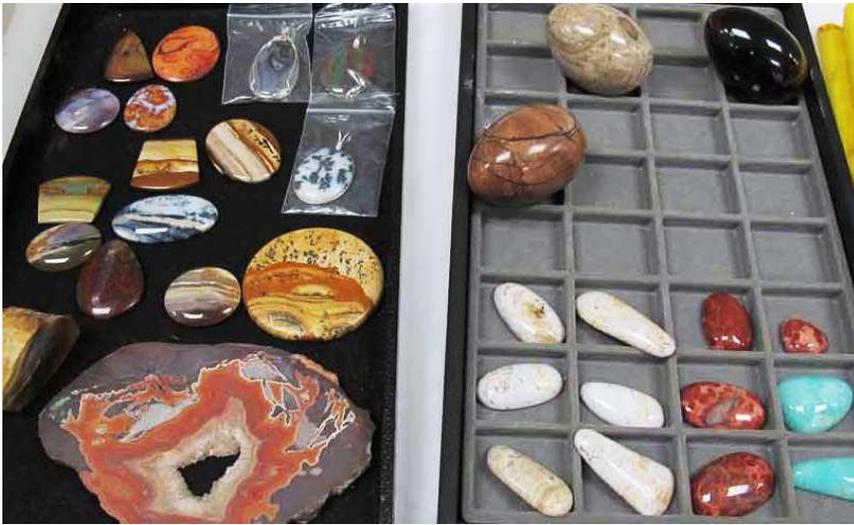


Great crowd, especially for a holiday weekend!!! Covered a lot of ground during the meeting...what with the show recap, planning several upcoming digs and finalizing the details for all three summer socials.



Club Meeting – May 2013

Photos by Pat

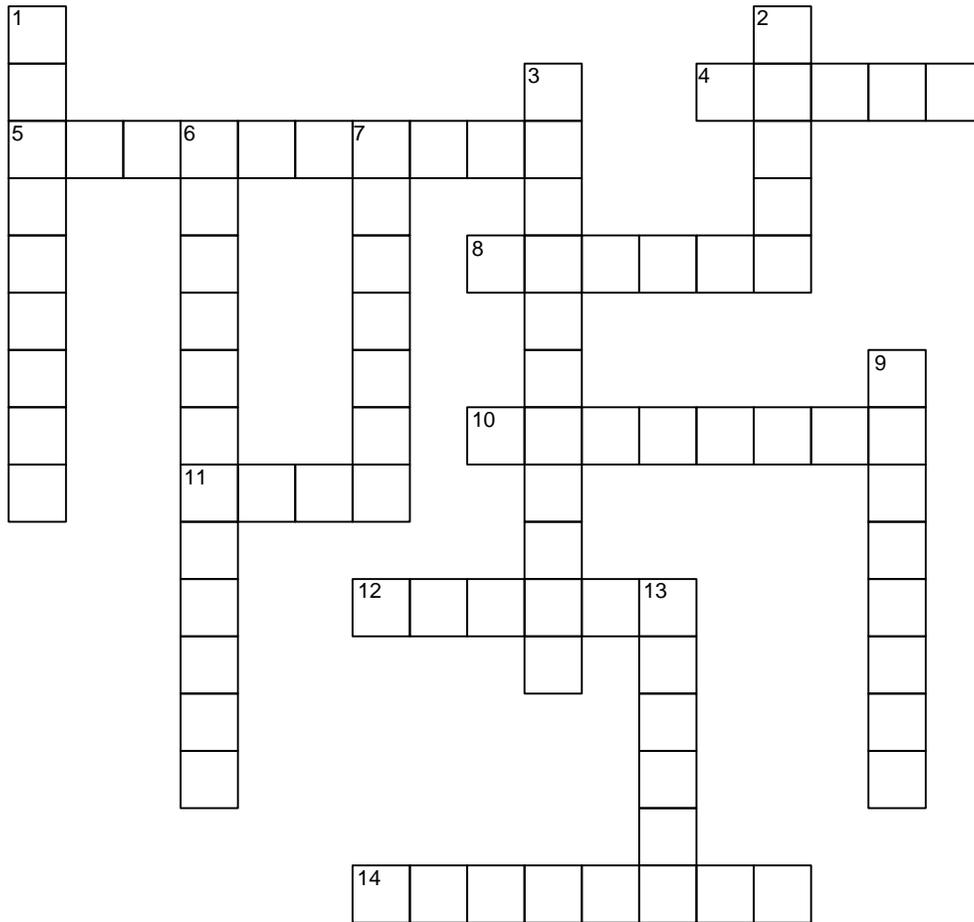


There was also food, treasures and talk of recent collecting trips.





Metamorphic Rocks



www.rocksandminerals4u.com

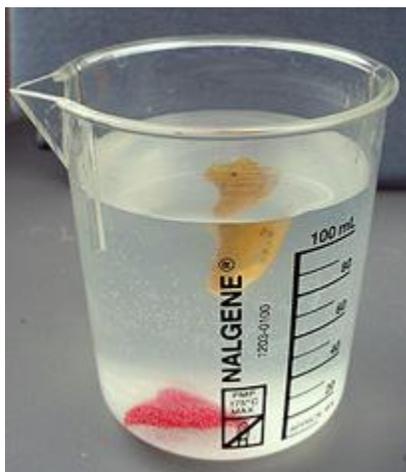
ACROSS

- 4 a metamorphic rock used for tiles and roofs
- 5 an organic metamorphic rock
- 8 limestone is the parent rock of this
- 10 an agent of metamorphism resulting from the weight of rocks above
- 11 an agent of metamorphism related to temperature
- 12 a foliated dense rock that has light and dark colored banding
- 14 metamorphic rocks having a banded or striped appearance

DOWN

- 1 comes from metamorphosed quartz sandstone
- 2 _____tectonics is the movement of parts of the earth's crust
- 3 change form
- 6 _____solution is gases and water vapor escaping from magma
- 7 _____metamorphism is a localized low grade metamorphism
- 9 _____metamorphism is associated with mountain building.
- 13 the name comes from a Greek word meaning "to split"

HOMEMADE HEAVY LIQUID TEST FOR AMBER



[A saturated solution of salt water with amber and plastic immersed]

Specific gravity, also known as relative density, differs widely among gemstones, and is one of their most important physical characteristics from the viewpoint of gem identification.

Specific gravity (SG) is the ratio of the weight of one unit volume of the gem to the weight of the same unit of water. For example, to say sapphire (corundum) has $SG = 4.0$, means precisely that a cubic inch of sapphire weighs four times as much as a cubic inch of water.

In natural gems, SG values range from just over 1 (1.08 for amber) to just short of 7 (6.95 for cassiterite).

One fun, and safe, heavy liquid test that can be done at home uses a saturated saltwater solution. (Make this by dissolving as much salt in room temperature distilled water as it will hold).

The SG of this mini "Salt Lake" is about 1.13. Most types of natural amber will float in it ($SG = 1.08$) while nearly all the plastic materials used to make imitations of amber will sink, as their SGs are higher than 1.13.

Imitation amber is rampant in the gem marketplace (even in some of the better stores), so this is a handy trick to know.

Source: <http://www.bwsmigel.info/Lesson3/DEPhysical.Properties.html>

Who What Where When Why How

June Birthdays

JUN 11 – Sherri Nealey

JUN 14 – William Ramos

JUN 19 – Abbey Pollan

Random Rock Facts

The term “optical phenomena” encompasses the light-dependent properties of a gem which are not due to its basic chemical and crystalline structure, but rather, due to the *interaction* of light with certain inclusions or structural features within the gem.

Major optical phenomena in gemstones include iridescence, adularescence, aventurescence, chatoyancy and color change.

Moonstone—one of the two modern birthstones associated with June—displays adularescence, and is a member of the monoclinic crystal system.

Source: www.bwsmigel.info/Lesson6/DE.Optical.Phenomena.html

Meeting Information

Time: 2:00 PM

Date: Fourth Sunday of each month (except June, July and August)

Place: Fellowship Hall – Tabernacle United Methodist Church
4329 S. Brannon Stand Road
Dothan, AL

Officers

President – Jeff DeRoche
334-673-3554

Vice President – Anne Trice
334-718-4838

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334-806-5626

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Show Chair – Arnie Lambert
334-792-7116

Field Trips Chair – Ken Wilson
850-547-9577

Hospitality Chair – JoAn Lambert
334-792-7116

Club Hostess – Laural Meints
334-723-2695

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
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Email: Tsavorite7@aol.com

Annual Dues

Single \$15
Family \$20

Refreshments

JUN 22 – Potluck Social

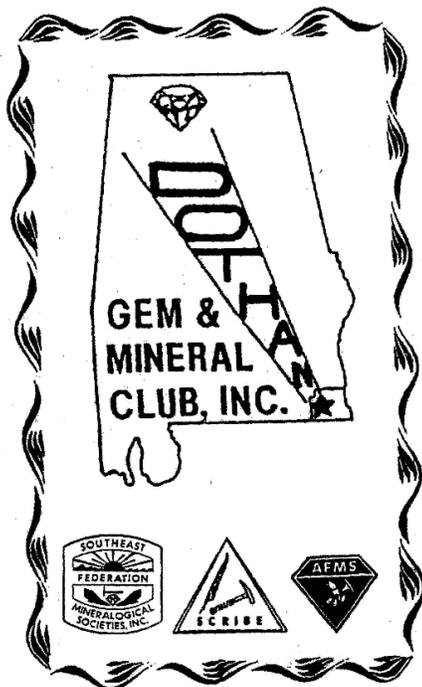
JUL 27 – Potluck Social

AUG 24 – Potluck Social

ROCKHOUNDS HERALD

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Where you might hear...

Major optical phenomena in gemstones include:

Iridescence – a prism effect that causes white light to separate into spectral colors as it passes through pores, slits, or thin layers of material of differing refractive index.

Adularescence – a billowy floating light which appears to come from below the surface of the stone.

Aventurescence – a glitter effect caused by randomly scattered, plate-like inclusions of another mineral that are highly reflective.

Chatoyancy – a streak-of-light effect caused by parallel, thread-like reflective inclusions such as needles or tubes.

Color change – emergence of a substantially different color when viewed with an incandescent light source, daylight, or a daylight-equivalent fluorescent source.

Source: <http://www.bwsmigel.info/Lesson6/DE.Optical.Phenomena.html>

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