

ROCK







PAGE 1 VOLUME 34

TYLER, TEXAS

ISSUE 6

JUNE 2008

حج

Coming Shows, 2008

AUGUST 9-10 BATON ROUGE, LOUISIANA Baton Rouge Gem & Mineral (225) 687-3864 or (225) 939-3293 e-mail: Paul Broussard@msn.com

AUGUST 16-17 BOSSIER CITY, LOUISIANA Ark-La-Tex Gem & Mineral Society (318) 687-4929 e-mail: cwsejohns@bellsouth.net Web site: http://larockclub.com

AUGUST 22-24
HOT SPRINGS, ARKANSAS Show
AKS Gem Shows
(504) 455-6101
e-mail: info@aksshow.com
Web site: www.aksshow.com

AUGUST 23-24 JASPER, TEXAS Pine Country Gem & Mineral (409) 382-5314 e-mail: rducote@cmaacess.com

AUGUST 30-31 ARLINGTON, TEXAS Arlington Gem & Mineral (817) 903-5980 e-mail: cessnak@ont.com Web site: www.agemclub.org

INSIDE THIS ISSUE

- 2. BRAZIL AQUAMARINE
- 3. BRAZIL CONT'
- 4. BRAZIL CONT'
- 5. OKLAHOMA FIELD TRIP
- 6. ROCK SALE FLIER
- 7. FOREST SERVICE LEGIS.
- 8. OFFICERS AND DIRECTIONS

SHOW & TELL

Our next meeting will be held on Monday, July 7th, and will be Show & Tell Night. We would like all members to bring something they have recently found, made, purchased, created, or something they have learned and tell us about it. We will limit each presentation to about five minutes. Of course we would like these to pertain to our earth science hobby.



The President's message was not available at the time of printing due to e-mail difficulties. PAGE 2



The June meeting minutes were not available at the time of printing.

Brazil: The Land of Aquamarines and So Much More

By Laura Dow AGMS Club Member

Brazil is a country that is famous to mineral and gemstone enthusiasts as one of the pre-eminent places in the world to find gorgeous, rare, and alternatively prolific treasures. Located in the northeast corner of South America, the country covers a vast area slightly larger than the continental United States. It is often thought of as the "place where most of the Amazon is," which is true, but due to its size the land also covers vast plains, mountain ranges, sea coasts, and swampy interiors as well. It is the southeastern corner of Brazil that is most renowned for gold and gemstones. The state of Minas Gerais, which means "general mines" in Portuguese, is where most of the trove can be found. Brazil was first colonized by the Portuguese in 1500 along the eastern coastlines. Expeditions in the early 1700's pushed inland in search of gold and treasure. They were not disappointed.

First were discovered beautiful green gemstones that were thought to be emeralds. They were in fact green tourmalines. This confusion lead to the term "Brazilian Emeralds" which is sometimes used even to this day. Also discovered were black stones. These were sent to Portugal for evaluation and determined to be gold. The

black rock it was found in was due to high concentrations of iron oxide in the soil. Thus was the town of Ouro Preto christened – it means "black gold" in Portuguese.

The discovery of gold in Ouro Preto, Minas Gerais, led to the Brazilian gold rush that lasted until the end of the 18th century. The diggings amounted to 80% of the world's production at the time. Slaves were brought in from Africa to do the hard labor. Many small cities sprung up which today still display the beautiful "Brazilian Baroque" architecture. In their digging for gold, prospectors came upon diamonds, emeralds, tourmaline, and aquamarines as well. At the time, "colored stones" or "semi-precious" gem stones, were not very notable. The gold and diamonds were what fueled the industry for decades. "For nearly 150 years, Brazil was the world's leading diamond producer, taking over from India." (Sauer 1982, p.11) This situation didn't change until the famous South African deposits were found in 1866. When WW II was in full swing, the mining regions of Brazil took on a new importance. The allies had large needs for quartz and mica to put into military devices. Beryllium, the metal element found in beryl, is a very important substance. It is stiffer than steel, it is nonmagnetic, non-sparking, and is lighter than aluminum. These properties led to its use in atomic research which was a direct predecessor to the Manhattan Project. Beryllium doesn't occur pure in nature but must be smelted from bertrandite and beryl ores.



1 1/4 inch, 90 carat Aquamarine found by David Dow, 7/3/2007, Marambaia region, Minas Gerais, Brazil Photo by Laura Dow

YLER, TX JUNE 2008



Brazil Cont'

At only .0006 % of the Earth's crust, it is a rare substance. Today beryllium is in high demand for space vehicles and for alloys; Brazil is the world's largest producer.

As a consequence of the search for mica and quartz, more and larger colored stones were discovered. It so happens that they are found near the same pegmatite intrusions. Southeastern Brazil contains a large number of *inselbergs*. These are pegmatite (formerly hot magma) intrusions into the Pre-Cambrian shield or "basement" stone (so termed due to its great age), that have eroded to the surface. They were once very, very deep in the earth's crust. The ancient basement rock tends to be granitic, made of quartz, feldspar, and mica. The pegmatites themselves are estimated to have intruded the shields from 680 to 450 million years ago, a time when Brazil was still abutting Africa and all of life on Earth was in the seas.

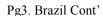
So much time has passed that many of the pegmatites have begun to break down into clays – so called "kaolinized" pegmatites. The gemstones are much more robust and survive the cycles of wet and dry, freezing and heat. This is a fortunate situation for the local people as it makes mining much easier. The *garimpeiros*, or free lance miners of Brazil, burrow into the clay earth in search of *linhas*, lines that used to be fissures in the rock where super hot fluids passed. Ideally these fractures terminate in a vug where the pressures would have been reduced and crystals would slowly cool out of the mixture.

After WW II, people began to take an interest in non-diamond gemstones. Brazilians opened up their own jewelry shops with stone faceting and goldsmithing, where these tasks had formerly been done overseas in Europe. The types of colored gemstones and minerals that can be found in Brazil are staggering with over 70 known species. A partial laundry list includes: beryl – emerald (green), aquamarine (blue to blue-green), morganite (pink), goshenite (clear), and heliodor (yellow); tourmalines – green, rubellite (red), indicolite (blue), and schorl (black); topaz – blue, imperial (yellow to orange); quartz – clear or "crystal", rose (pink), amethyst (purple), aventurine (green), citrine (yellow), smoky (gray), rutilated (rutile inclusions); agates; opal; garnets; and the list goes on! Brazil has gemstones that are found no where else in the world. For others, Brazil is known for having the best quality in the world, such as imperial topaz – found near Ouro Preto, and Paraiba (neon blue) tourmalines.

With this huge quantity and quality of gemstones and minerals available, it's no wonder that the Minas Gerais area of Brazil is a tag so frequently seen on museum and private specimens around the world. Of them all, they are most famous for aquamarine. "This South American nation was the 20th century's top producer of aquamarines...The color, shape, and luster of Brazilian aquamarine crystals rank them among the finest and most sought-after mineral specimens in the world." (Falster, et. al. 2005, p.84)

A huge, single, flawless crystal of aquamarine was found in 1910 in the Marambaia region of Minas Gerais. The Papamel Aquamarine, at 19 inches long and 16 inches around, weighed 244 pounds or 552,500 carats. It was cut into several large gemstones. A less famous but equally interesting find (to me), was also made in the Marambaia region – that of a flawless, perfectly terminated, 1 ¼ inch, 90 carat blue green aquamarine crystal dug up by my husband, David, on a journey to Brazil in 2007! It will NOT be cut up.

Aquamarine is one of several varieties of beryl, a beryllium aluminum cyclosilicate that grows into a hexagonal crystal structure. The most famous member of the beryl family is emerald. Aquamarine is so named due to its blue green coloration that is similar to the color of the sea. Its hue is due to traces of iron. Aquamarines often exhibit a property called *dichroism*, meaning "two colors." If you view it down the optic axis, the stone



appears greener while on the perpendicular axis, it is blue. Even though aquamarine is very sturdy under normal circumstances, it is easily broken down at high temperatures and pressures. This results in specimens of so called "acid etched" aquamarines and heliodors. With a Mohs hardness of 7.5 to 8, aquamarines are tough enough to withstand placement in rings and other jewelry, much to the delight of us all.

If you ever get a chance to visit Brazil, you must certainly add the state of Minas Gerais to your list. If this is not an option, there are many shows and vendors who have specimens to choose from. As always, be sure they are reputable. Blue topaz in particular, can easily be mistaken for aquamarine once it is faceted. Last but not least, be sure to peruse and enjoy all the many museums that have examples from this region. You are guaranteed to see "Minas Gerais" on the label somewhere, somehow, in almost any exhibit that you visit.

References:

Brazil: Minas Gerais Gems & Minerals. 11 Jun. 2008

http://www.allaboutgemstones.com/gems minas gerais.html

Delaney, Patrick J.V. *Gemstones of Brazil: Geology and Occurences*. Ouro Preto, Brazil: Revista Escola de Minas, 1996. [Note: title spelling as it appears on book.]

Falster, Alexander, Miranda Jarnot, Günther Neumeier, William "Skip" Simmons, Gloria Staebler, Tom Wilson, and Michael Wise, editors. *Beryl and Its Color Varieties*. East Hampton, CT: Lapis International LLC, 2005.

Richter, Felix. *Cidades Historicas De Minas Gerais [The Historic Cities in Minas Gerais]*. Rio de Janeiro, Brazil: Céu Azul de Copacabana, [No Year.]

Sauer, Jules Roger. Brazil: Paradise of Gemstones. [No City Given]: Tuttle Publishing, 1982.

Size, Tina. "Aquamarine The Lighter Side of Blue," *Solitaire* June July 2003 Archive. Solitaire Media Pte Ltd, Singapore. 11 Jun. 2008 http://www.solitaire.com.sg/magazine/jun_jul/

story4.html.

Via Stone Chipper 06/08



Natural, acid etched aquamarine specimen, Minas Gerias, Brazil,



Oklahoma, Where The Indians Roam...and Rocks are Rosie.

You just had to be there! Our trip to Oklahoma was a blast; there were 6 from our club. Carol Moore, Susan Oravetz, Kristine & Bailey Cook, Doug Sager and myself, along with Dora the Clubs' Secretary from Fort Worth. We met in the parking lot Saturday as planned, heading to our destination to collect Rose Rocks! It's funny, I told everyone that it would be like collecting Easter eggs, and the only thing is the hike down, and the hike out with you collections! Yep, we got us plenty, so many in fact that we have a large donation to the Children's Wheel of Fortune!

From there we split off, cleaned up some (yes some waded in the water) and got ready for the Oklahoma Red Earth Pow Wow. Indulge me here, I'm in my Native State, enjoying not only the 500 + full regalia dancers, the 8-10 drum circles, but the arts and crafts of all indigenous peoples. There was a concert going on, and one of my favorite groups Arvil Bird & One Nation were performing.

We finally made it back to our room between 9pm and 10pm.

The next morning we were lead out by Doug Sager, who had given all of us the heads up we were going home by way of Troy, Oklahoma.

(Yes Bob, we stopped at Exit 51 and got fried pies);)

Lots and lots of quarries in the area, but they only offer plain old rock, what we went to was Pink Granite. A giant monolith of granite, with a peppering of smaller boulders.... now tell me please, how do we get one of those in our vehicle for yard rock?

It didn't happen, but we did collect some nice specimens, so many in fact, that we have another donation to the Children's Wheel of Fortune.

It was a great time; we all came home with something! I wonder if we can wrap these rose rocks in wire for jewelry for the kids? Wouldn't that be a great? Wonder if we can get us a teacher?



"See, I told you it was like picking up Easter eggs'



GIANT ROCK SALE July 5 - 13, 2008 9 am til dark

July 14 - 31, 2008 By appointment

Delbert & Joyce Speed 4680 Wisteria St.

Dallas, TX 75211 214-337-9446

Cells 214-543-5566 or 214-912-3240

Rock, Slabs, 12" plus Petrified Wood Polished Rounds, quartz, Large pieces of petrified wood and rock, etc.

All will be sold *cheap* by the basket, box, bag or large individual pieces. \$10 up!!!!!

Don't Miss This Sale!!!!

PAGE 7

FOREST SERVICE proposes MASSIVE amendments to the MINING and MINERAL COLLECTION REGULATIONS

In March, 2008, the United States Department of Agriculture - Forest Service published a Proposed Rule: AMENDMENT to Title 36 of the Code of Federal Regulations, Parts 223, 228, 261, 292, and 293; and the OMB No. 0596-NEW. The Proposed Rules constitute a massive change to Forest Service�s Mining Regulations. We believe that the Proposed Rules, if enacted, as is, would, effectively, curtail both, small scale commercial mining and recreational mineral collecting, altogether, in all of the National Forests within the United States. If this is the intent and effect of the Proposed Rules then, only your participation can prevent it from happening. Please participate and comment. Public comments and information collection requirement comments are, both, due by May 27, 2008. (Federal Register Notice: Tuesday, March 25, 2008, (73 FR 15694).)

Equal Access to Justice, Inc., (a nonprofit organization), is submitting a substantive set of comments opposing both, the Proposed Rules and OMB No. 0596-NEW. You can do the same just go the Equal Access To Justice, Inc. comments

http://www.equalaccess2justice.us/cgi-bin/news.cgi?article=66>...

There is an explanation page along with a link to both the comments and a form that you can send in if you agree with the comments. There are so many violations of procedure and law that, we realized, it would be very cumbersome and impractical to print and send in a full set of comments so we incorporated a form to lesson the extensive burden of printing and mailing so many pages. This also makes it possible to fax your comments in. You are welcome to download the comments of course and if you could spread the word it would be good. Feel free to post any of this information to other locations.

These comments are very extensive, even so by Sunday night we expect to have a more complete set of comments which we will also post in the same location.

Thank You Walter H. Eason, Jr.

Thanks to Virgil G. Richards for this information.

Director, 2008

Tulsa Rock & Mineral Society

VP-2007-2008

Broken Arrow Paleo Society

Oklahoma State Director, 2007-2008

Rocky Mountain Federation of Mineralogical Societies

918-640-9592

Also thanks to Laura Wilson for forwarding this to me.

7

CLUB OFFICERS

PRESIDENT: Robert (Rip) Criss 903-922-2856

P.O. Box 4243 Palestine, TX 75802

VICE PRESIDENT: Jon Laverty 903-295-8302

1611 Springdale ST. Longview, TX 75604

TREASURER: Jeri Kitchens 903-245-8822

2533 Chelsea Dr. Tyler, TX 75701

SECRETARY: Becky Whisenant 903-795-3652

Rt. 4 Box 77W Rusk, TX 75785

FIELD TRIP Laura Wilson 903--894-6821

CHAIRMAN: 1337 CR 3402 Bullard, TX 75757

SHOW CHAIRMAN: Keith Harmon 903-581-4068

8316 Oxford ST. Tyler, TX 75703



THE EAST TEXAS GEM AND MINERAL SOCIETY MEETS ON THE FIRST MONDAY OF EACH MONTH, UNLESS THAT DAY IS A HOLIDAY, THEN THE MEETING IS MOVED TO THE SECOND MONDAY. WE MEET AT THE DISCOVERY SCIENCE PLACE, 308 NORTH BROADWAY, JUST NORTH OF DOWNTOWN TYLER, TEXAS. MEETINGS BEGIN AT 6:45 P.M.

NOTE TO EDITORS

Feel free to use contents and graphics for nonprofit newsletters. Give credit when and where due.

Purpose of the East Texas Gem & Mineral

Society

Is to promote the study of geology, mineralogy, fossils and the lapidary arts.

The public is always invited to attend all club meetings.

Annual dues are \$10.00 for adults and \$2.50 for juniors.

EDITOR: Susan Burch 936-615-5397

20427 US. Hwy 69 S. Alto, TX 75925

E-Mail: rocknroseeditor@hotmail.com