



A monthly publication of the Clear Lake Gem & Mineral Society

VOLUME 36 JUNE 2011 NUMBER 06

Father's Day



NEXT MEETING: June 20, 2011
TIME: 7:30 PM
LOCATION: CLEAR LAKE PARK BUILDING
 5001 NASA ROAD ONE
 SEABROOK, TEXAS

The PROGRAM FOR June...

The program for the June meeting will be presented by Jeanne Sadler, Caribeading – Island Inspired Jewelry Art. She has been wire wrapping and beading as a hobby for the past six years as she cruised the islands in the Caribbean. Her jewelry art has won recognition in competitions and has been on display in an Art Gallery and gift shop in Florida. She has taught many classes in basic beading and has had many jewelry parties in homes. Many of her creations are wire wrapped in sterling silver. She uses gemstones, sea glass and various rocks and fossils. She will give us a demonstration.

SHOW and TELL

Share a report of our latest field trip or your own special dig. Bring in your prize specimens and educate us. Bring us your rockhounding finds and let us see how you did.

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May Minutes	2	 <p>Weather is warming and its time to take a Club Officer to Lunch! *Laughs* Pictured are Al Pennington, Editor and Loyce Pennington, Treasurer</p>	2011 CLGMS Scholarships Award By Al Pennington, Scholarship Chairman This year's CLGMS Scholarships for the Earth Sciences have been awarded to two SJAC students. Seth Moore and Adriana Tovar will be awarded for the Clear Lake Gem and Mineral Scholarships of \$1000 each at the June General Meeting. Entrants were submitted by Sharon Choens of SJAC Central. The CLGMS is continuously giving back to the local community and this is one of the ways we can help the most. As those of us in all clubs know, the young are the future and it is important to help those interested in pursuing a career in the earth sciences.
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"An investment in knowledge always pays the best interest." Benjamin Franklin

Minutes of the Clear Lake Gem and Mineral

May 16, 2011

President Bob Brock called the meeting to order and opened it with the Pledge of Allegiance. Treasurer Loyce Pennington presented the Treasurer's report for January, February, March and April. Discussion was held regarding the Phoenix Design Group expense which is paid because they are responsible for setting up the convention center for the annual show. Sterling Bank who has our account has been acquired by Commerce Bank. Ben Duggar made the motion to approve the Treasurer's reports. The motion was seconded by Lester Gary and the reports were approved as presented. Al Pennington announced he is retiring from NASA in September and Loyce Pennington does not plan to run for Treasurer next year. Al is our main source for the show as well as the monthly newsletter. He is an integral part of our club. He expressed the importance in promoting geology in the schools and communities. The Pasadena Convention Center has been reserved for 2012 and 2013. There were no changes to the April meeting minutes.

David Tjiok provided the refreshments and President Bob Brock encouraged attendees to help themselves.

Field Trips

Field Trip Chairperson Ed Tindell reported there were no upcoming field trips planned and Neal Immega invited the club to join the HGMS on their field trip to Blue Lagoon, an old sandstone quarry outside of Huntsville.

Committee Reports

Historian – Chairperson David Tjiok requested the purchase of binders for historical newsletters. Lester Gary made the motion to approve the purchase, it was seconded by Trina Willoughby and approved unanimously.

Library – Chairperson Lester Gary reported he has purchased some new books for the library.

Community Service – Chairperson Nancy Duggar brought rocks for identification to be used in the school rock and fossil kits.

Education – There were no five minute presentations made.

Membership – Chairperson was absent.

Annual Show – Al Pennington reported attendance was slow. He felt the economy hit us in addition to the Mardi Gras and Rodeo Parades held on the same Saturday as our show. The dealers also reported the show was slow. Printing will be early this year beginning next month to get information to the dealers for shows they attend. There were some complaints about Swap dollars as only a few dealers made money with it. The Show Committee will evaluate whether we will set up Swap again next year. Lester Gary handled the entire Swap Table with some help on his own. Apparently Rock Swap has presented some issues and was discussed at the Annual SCFMS meeting. Jim Wines did a fine job in meeting the dealers and taking over that position.

Program

The program was presented by Neal Immega, curator at the Houston Museum of Natural Science. He discussed the new Paleo Hall being built at the museum. The expansion of the museum is funded entirely from private donations. It will have four stories and will double the size of the museum. The expansion was needed because the museum has more visitors than it can handle. Two years ago, they exceeded three million visitors. The museum is third in exhibit space behind the Smithsonian and one other museum. The Paleo Hall is the length of a football field and will house trilobites in addition to dinosaurs. The dioramas were designed by Bob Barker and Neal had pictures of the various types of dinosaurs that will be used in them. The expansion is scheduled to be open in the summer of 2012. There will be classrooms and six or eight more exhibit halls.

There were no door prizes and the meeting was adjourned.

Respectfully submitted:

Anna Williams, Secretary

The Story of Montana Agates

It has always been a mystery how the peculiar little scenes got inside a rock as hard as agate. It is the claim of geologists that the spots were caused by infinitely minute seams or fissures in the softer parts of the rock being filled with metallic oxides when the world was young. These oxides made four different colors that form various combinations of color when blended together, or appear in single colors in each rock.

The red color is oxide of iron. The black is oxide of manganese. The green is oxide of copper. The blue is oxide of nickel. This theory has been elaborated by the help of high powered microscopes which show the tracings of little canals so close the naked eye could not detect it; but the oxides remained, staining the rocks in wonderful designs. The fernlike and branch effects of the trees grass and shrubbery come from the fact that the tiny canals branched out in various subdivisions forming smaller canals for a common center.



In addition to these canals, the rock became flawed through shrink-age while passing through a period of evaporation which, according to scientists, has taken more than three million years to reduce the stone to the hardness of 7 on the Mohs scale. These canals and flaws have been perfectly healed by soft silicate formations of which the stone is a part, and the evaporation has caused the oxides to take on such forms as seen on the window after a frosty night.

Technically, Montana agate is known as “dendritic” agate, and the moss spots are called “dendrites”. It is the third hardest stone in the world, and is cut only with a diamond saw. There can never be two pieces alike even though cut from the same stone.

Source: *STAR-O-LITE*6/11 via The Petrified Digest via Strata Gem 11/10

Lapidary Hints

Cabs Always Fall off the Dop.

Well a couple of possible reasons, first, if you are using old dop wax, or wax that has been heated many times, you may have to recharge it to get its tackiness back. Do this by melting some real beeswax in with the dop wax. Second, if you left the dopped cabs in the shop overnight, and the temperature dropped, that is just like putting them in the freezer to detach them. You will have to redo the cab, or bring the dopped cabs inside so they stay warm.

Healed or Not?

If you are not sure as to whether a fracture in a slab is a healed fracture or not, wet your finger and swipe it across the fracture. Watch the fracture as the water dries, the fracture if NOT healed will take a bit longer to dry out. If dries at the

Tiny Work.

When polishing small crevices, use a shish kabob stick. the larger ones will fit a Dremel or Dremel like hand piece.

Simply dip the tip in water, then in the polish, and let it go. Fire Agate is a fine example for this tip.

An May HAPPY BIRTHDAY

Jones, Ray	06/01
Schuler, Chuck	06/06
Schuler, Vicki	06/07
Lagerwall, Dean	06/18
Tjiok, David	06/26
Robinett, Bettie	06/27

Moonstone: Gives inspiration and helps obtain love and romance. Also claimed to promote long life, happiness and loyalty towards the wearer.

May Anniversary includes:

Sharon Choens	6/26
Vicki and Chuck Schuler	6/26

IS YOR NAME NOT ON MY

LIST? I am behind on Anniversaries and Birthdays of newer members. If you have not seen your name in the last few months on the right date let me know. Day of Month is fine.

GOODIE GETTERS...For June

Main Goodies provided by club.

Lapidary Corner (Special request from a new member)**Gold Value**

Ever wonder what sets the value of gold - its fineness? Pure gold is 24 karats. Other golds are set by the content of pure gold in its formula.

- _ 18k gold is 18 parts gold (75% gold and 25% of another metal)
- _ 14k gold is 14 parts gold (58% gold and 42% of another metal)
- _ 10k gold is 10 parts gold (42% gold and 58% of another metal)

14k and 10k are used in the United States for jewelry making, and also sometimes 18k. In Europe, most countries prefer to use 18K. Gold by itself is very soft, so to get strength and durability other metals are added such as silver and copper. Most of the 24k pure gold in the world is used in bullion or ingots for trading or investments. Most of the rich countries in the world have stockpiled many ingots worth billions in their treasuries. The United States has very large stockpile of gold. Most know the locality of where some of the USA's gold is kept - Fort Knox, but there are two other places it is kept for safety reasons. Two undisclosed locations, supposedly in New York, and the other in Colorado.

From Monongahela Rockhound News, 6/11

FINISHING PIERCED PATTERNS by Brad Smith

After sawing patterns, there's always a little clean-up to do. Needle files (7-8 inches) can get into the larger areas, and escapement files (4 inches) can get into some of the corners. But I often find myself looking for even smaller files. I couldn't even find them at a watchmaker tools supply company, so I had to try something else. I ended up grinding down the tip of a 4" barrette file using a separating disk (or cutoff wheel) in a Dremel or Foredom. The wheels are inexpensive and do a great job grinding steel (poor at soft metals like silver). The disks have other uses like modifying pliers and making design stamps. My preference is the one-inch diameter ones. Be sure to hold the wheel firmly so nothing moves to break the disk, and definitely wear your safety glasses. A flake of steel in your eye makes for a bad day.



More BenchTips are at
<groups.yahoo.com/group/BenchTips/> or at
<facebook.com/BenchTips> Via Gritty Greetings, 6/11

Field Trips (2011) by Ed Tindell

Name your Field trip

Well we did not get to your needs due to the show or have enough folks at the April meeting. Thus, we will be discussing various destinations for our field trips this year at the next club meeting. I threw out several ideas and now we need to begin working toward some goals. Hope to see you at the meeting for ideas.



Thanks,
Ed Tindell 2010 CLGMS Field Trip Coordinator
a.k.a. "The Official Cat Herder"

Pearls in Trees

Pearl formed by oysters or other mollusks are made of aragonite, a form of calcite (calcium carbonate). These are well known, but the most surprising pearls are those that grow on trees – Cocoa palms. A coconut pearl occurs inside the nut when the three holes, including the one that opens, are lacking. The embryo, unable to escape, forms a valuable and highly esteemed pearl of the same carbonate of calcium. from The Pegmatite, no date, via Backbender’s Gazette, 6/06

Drop of Water Test for Topaz

Quartz and topaz are not easy to separate by eye, and are sometimes impossible when the quartz is a true topaz color. There is a big difference in price between the two and anyone describing quartz as “topaz”, however innocently, may well be in trouble. Topaz is quite a different mineral, which is harder than quartz. Because of this, a drop of water will not spread on topaz but will spread on quartz. Clean the stone as effectively as possible with a cloth or handkerchief to remove all trace of grease. It must be dry before the test. Then place a spot of clean water on it with a thin glass or metal rod.

On stones with a hardness of less than 7 on the Mohs scale, the water is dispersed. Oh harder stones it will remain a globule. The harder the stone the more rounded will be the globule.

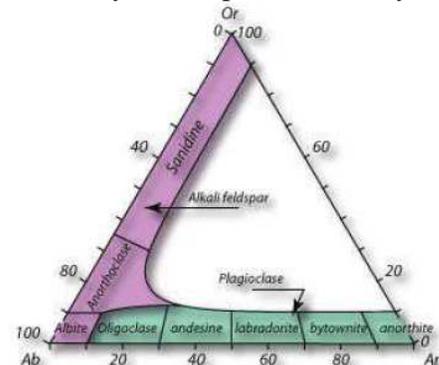
from Rock Chipper via Rock Chip Reporter 11/97 via The Rollin Rock,

11/10

Feldspar

If you were told that you have a feldspar, you were only told half the truth; feldspars are a group of minerals and a not a single mineral. Each mineral in the group has its own crystal structure and unique chemistry. David provided a very thorough,

detailed and interesting description of the different kinds of feldspar minerals. The feldspar group is divided into



two classes; see the accompanying chart. The plagioclase class consists of five minerals and forms a series from albite to anorthite;

(bottom of chart) the mineral in each depends on the combinations of these two minerals. For example any mineral with over 90% albite is classified as albite and any mineral with more than 90% anorthite is said to be anorthite. While the plagioclase feldspars are rich in sodium and calcium and sodium the alkali minerals are potassium rich. The three most common minerals in this group are microcline, sanidine and orthoclase (left side of chart). Many of the feldspars make fine additions to any mineral collections; there are others reasons for collecting feldspars. Wonderful cabachons can be fashioned from moonstone, sunstone, labradorite and spectrolite, all of which are feldspars or feldspar varieties. Not to be forgotten is peristerite, a variety of perthite, which consists of inter-grown crystals of albite or orthoclase with microcline. David also showed us pictures and samples of beautiful and rare faceted gemstones; noble orthoclase, colourless clevelandite, and an exquisite calcium rich, red bytownite. Thank you David; for a most informative, thoughtful and thoroughly entertaining discussion of the feldspar group of minerals.

From The RockCollector 6/11 Strata Data, 6/11.

Obsidian is very cool stuff....

It's a common misconception that obsidian is a type of silica glass. It is glass but it is NOT pure SiO₂; it is (usually) rhyolite magma that is now a glass—it has become “supercooled”, = cooled below its normal crystallization temperature, but without any crystals forming. It's composition is the same as that of granite; so it only contains about 70-75 percent by weight SiO₂, and the rest is Al₂O₃, Na₂O, K₂O, plus smaller amounts of oxides of Ca, Fe, Mg, Ti, etc.



A common statement is that obsidian is glassy because it “cooled very quickly”, and we tell this to people so we can give a simple explanation, but in reality this is only partly true. Some obsidian deposits are rhyolite lava flows that are quite thick—up to 10s of meters—and there is no way that such a large mass of lava could really cool “unusually quickly”. The real reason it becomes obsidian is that the rhyolite magma that formed it was very “dry”—low in water content—because the presence of water facilitates crystal growth; and, the original rhyolite magma must have been completely liquid and contained no crystal nuclei; if there were any, they would

have served as nuclei for further crystal growth, and the rock would have become gray and opaque, rather than completely glassy.

I'm sure that the brown color in mahogany obsidian is some form of iron oxide, hematite or “whatever”, in very tiny particles, and these seem to form along boundaries between flow layers in the obsidian—giving mahogany obsidian its typical banded/ streaky appearance. And a last point, explaining the black color of typical obsidian makes an interesting story but it takes a little time to tell it, and the explanation of its black, but still translucent, color, seems to be contradiction. The dark gray or black color is due to absorption of light by iron ions that are present (though only in a very small amount) in the glass; this contradicts the usual wisdom that “dark-colored minerals are high in iron content”—because typical obsidian contains only a trace of iron, no more iron than other forms of rhyolite, such as pumice, which can be almost snow-white. The black color is due to the high transparency of the glassy obsidian, which sounds like another contradiction. When rhyolite is devitrified (= not glassy), full of tiny crystals with grain boundaries and fractures between them, the crystals scatter or reflect the light that enters it, and light does not penetrate very far into the rhyolite rock; being reflected back out after only penetrating a small fraction of a millimeter, there is not much opportunity for any wavelengths of the light to be absorbed by the coloring-agent ions in the rhyolite (iron, manganese, titanium), so the surface looks almost white.



But in obsidian, being very transparent, light can penetrate for a considerable distance without encountering irregularities that would reflect it, so, with a much longer “optical path”, there is much more opportunity for the iron and other colored ions to absorb some of it. Light may penetrate, let's say, for 2 centimeters into the obsidian, as compared to perhaps 2/100 of a millimeter in a crystalline rhyolite—a difference of a factor of 1000, so 1000 times as much light will be

absorbed by the trace of iron that is present. That's why obsidian looks black, though you can still see light (which will look brownish-gray) through a thin edge of it. And if one crushes & grinds the obsidian to a powder—the powder will be almost white, just like common rhyolite or pumice is; because now the fine particles reflect and scatter the light as described above, as soon as it hits their surface. The **ROCKHOUND 6/11** via Pete Modreski Executive Editor, Rocks & Minerals magazine

OPAL CRACKS AND CRAZING by Paul Downing

Opal, they say, is a delicate stone. They are wrong! There are two things that may happen to an opal. It may crack or it may craze. An opal may crack when subjected to severe pressure applied by a sharp instrument but so can diamonds, and many diamonds do chip. An opal may craze if it dries out an/or changes its internal structure. But the vast majority of all opals do not crack or craze.

Crazing is readily identifiable in an opal. It starts with small intertwined cracks at the surface of the stone which may spread over time. The pattern they form looks like a spider- web or a dried mud puddle. Scientists do not know why some opals craze. One common explanation is that the opal loses part of the water trapped between silica spheres. It then shrinks and the surface tension causes the crazing. Another explanation is that the chemical structure of the silica spheres changes as a result of being exposed to the light. The energy of the light activates the chemical reaction.

Cracking is easily distinguished from crazing. Cracks are long and go into the stone. When examined with transmitted light, a crack will reflect an orange light from one or more directions. Usually there is only one crack. Cracks are caused by external pressure. The miners break up large pieces of opal by squeezing them between the sharp jaws of a file nipper. Prongs in jewelry designed for faceted stones do the same thing to an opal. Most cracked opals are the result of inappropriate setting. On rare occasion an opal will crack for no apparent reason. People have told me of opals that cracked in their rings when they went outside in very cold weather.

The problem of cracking and crazing made me curious, so I started an experiment about a year ago. I took several opals and put them in a paper bowl in the freezer. After several days they were frozen solid. I then ran them under scalding tap water. After repeating this exercise six times, none of the opals cracked or crazed. Next I placed these opals in a west window and let them bake in the hot Florida sun. After almost a year, not a one has cracked or crazed. The experiment included opals of several types. Base colors ranged from white to gray. Some opals had full fire, some only lines of color, and some had no fire at all. They were from Coober Pedy, Mintable, Andamooka, and Lightning Ridge. Some had inclusions in them. Others had cracks. Neither the inclusions nor the cracks spread.

I conclude from my observations that we really do not know why an opal crazes. Do know that almost all (well over 99%) of the opal from any Australian mining area does not craze. Know that almost all cracking results from pressure caused by improper setting of the opal or extraordinarily rough wear. Opal has an undeserved reputation. Cracking and crazing are very rare. Is opal delicate? Not really.

Via Serendipity Gems 01/92, via Cedar Valley Gems 5/01

CLGMS Scholarships 2011

The two students are:

Seth Moore - Seth will be attending the University of Houston - Clear Lake Campus. He plans on majoring in Environmental Science with a Geology specialization.

Adriana Tovar - Adriana has been accepted into the School of Geosciences at Texas A & M University. She will be majoring in Geology this fall.

SCFMS and MEMBER CLUB GEM SHOWS			
AUGUST 14-15 BATON ROUGE, LA Baton Rouge G&MS Fraternal Order of Police	AUGUST 21-22 BOSSIER CITY, LA Ark-La-Tex G&MS Bossier City Civic Center	AUGUST 28-29 JASPER, TX Pine Country G&MS Events Center	Sep. 03 - 04 ARLINGTON, TX Arlington G&MS Arlington Conv. Ctr.

STONEY STATEMENTS
 Clear Lake Gem and Mineral Society, Inc
 PO BOX 891533
 Houston, Texas 77289

(Postage)

Meeting 3rd Monday of the Month – 7:30 P.M.
 June 20, 2011, Clear Lake Park Building
 5001 NASA Road One, Seabrook, Texas



Member of:

Next Annual Show
 February Feb 25-26, 2012
 Pasadena Convention Center



CLGMS is on the Web:
<http://www.clgms.org>

Clear Lake Gem and Mineral Society, Inc			
MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies			
PURPOSE: To promote education and popular interest in the various earth sciences; in particular in those hobbies dealing with the art of lapidaries and the earth sciences of minerals, fossils and their associated fields			
2011 OFFICERS:	President	Bob Brock	281-338-2252
	Vice President	Ed Tindell	281-930-0698
	Secretary	Annabel Williams	
	Treasurer	Loyce Pennington	281 481-1591
	Program Director	Trina Willoughby	
	Board of Directors:	Trina Willoughby	Lester Gary
		Cheryl Tindell	David Tjiok
	Newsletter Editor	Al Pennington	281 481-1591
Annual Show 2012.....	Al Pennington	Library.....	Lester Gary
Const & bylaws.....	Dick Rathjen	Membership.....	Mike Flannigan
Community Benefits.....	Nancy Dugger	Publisher.....	Mike Flannigan
Historian.....	David Tjiok	Refreshments.....	David Tjiok
Membership Dues Jan. to Dec. 2011: Adult \$10:00, \$5.00 per additional adult at same address, Junior \$5.00, \$2.50 per member with adult at same address, Family Dues \$20.00 (4+) at same address. Send Dues to CLGMS, PO BOX 891533, Houston, TX, 77289			
Granvil A. "Al" Pennington, Editor 2011 – 11326 Sagetrail Houston, TX 77089-4418			
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