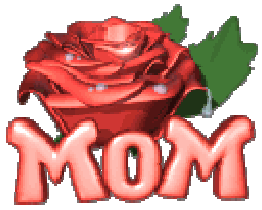
A monthly publication of the Clear Lake Gem & Mineral Society

VOLUME 36 MAY 2010 NUMBER 05



NEXT MEETING: **May 17, 2010**
TIME: **7:30 PM**
LOCATION: CLEAR LAKE PARK BUILDING
5001 NASA ROAD ONE
SEABROOK, TEXAS

The PROGRAM FOR May…

The program will be given by "Dean Eppler". Field geology is the principal source of geologic information on Earth, and will continue to be so as we move out into the Solar System. However, the actual conduct of field geology is something that is poorly understood outside the geologic community, and has led to many misconceptions as to how this can be done. This presentation is aimed at dispelling the myths surrounding this most basic of geologic skills, and will talk about how we can adapt field geology on Earth to activities on the terrestrial planets."

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.

INSIDE THIS ISSUE

Stoney Statements Spotlight

Weather is warming and its time to dig! Take a Geode to Lunch!

Editorial

2010 CLGMS Scholarships Award

By Al Pennington, Scholarship Chairman

This year's CLGMS Scholarships for the Earth Sciences have been awarded to two SJAC students. Randy Hoggard and Shameka Wolford 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.

"An investment in knowledge always pays the best interest." Benjamin Franklin

Minutes of the Clear Lake Gem and Mineral

April 19, 2010

President Bob Brock called the meeting to order and opened it with the Pledge of Allegiance. Treasurer Loyce Pennington presented the Treasurer's Report. Chuck Schuler made the motion to approve the report and Nancy Duggar seconded the motion. The report was unanimously approved. There were no changes to the March Meeting Minutes as published in the Stoney Statements. Students from San Jacinto Central College were introduced and welcomed.

Committee Reports

Historian – No report.
Library – Chairperson Lester Gary announced that the library books will be temporarily moved to the storage locker.
Community Service – No report.
Education – Nancy Duggar made a request for members to bring rock samples in groups of nine to the next meeting, which will be given next fall to the school libraries which have already received donations for books. She also asks you to please identify them.
Publicity – Nancy Duggar mentioned that we should be seeing articles in the Houston Chronicle from our recent show.
Membership – Chairperson Mike Flannigan noted that we have 64 members..
Show Committee – Chairperson Al Pennington discussed the recent show expenses and attendance growth. Show attendance was good but at the same time, revenue was down.

New Business
Ed Tindell suggested that we use Facebook to promote the club and the annual show.
Chuck Schuler announced that a dig for dinosaur bones in Montana is being put together.

Field Trips – Field Trip Leader Ed Tindell did a short talk on the advantages of using a longer handled pick to make up for more force in digging, especially at higher elevations. He brought one he recently acquired. If members are interested, a group order may be put together for purchase.

Old Business
None

Program –
Our speaker was Malcolm Sadler from San Jacinto Central College. He attended college in Tennessee and then taught 6th grade science. He worked as a seasonal park ranger before coming to San Jacinto College. During a period from Nov. 2008 to May of 2009, he enjoyed a trip that covered most of the United States. His presentation included National Parks, National Monuments, National Historic Sites, National Battlefields, a National Military Park as well as a fun stop to the Jelly Belly Factory (they give out free jelly beans!). Malcolm noted that a National Monument was determined by the President, while the National Park was Congressional. With well over fifty locations, he is well on his way to a goal of seeing all the parks within the United States. He had a most enjoyable presentation with too many to list. You just had to be there!

Door prizes, donated by Chuck Schuler were awarded and the meeting was adjourned.

Respectfully submitted
Loyce Pennington
Substituting for the Secretary

FIBER OPTIC GEMS: WHAT ARE THEY? by Bill Grimes

Fiber optics was developed as a result of someone studying a piece of the mineral ulexite. Also known as TV stone, it is a hard, brittle, fibrous stone which when writing is placed underneath, will allow the image to appear on the surface of the stone.

The led to the theory that if this type of fibrous material could be manufactured, it could be used in many different ways where image transmission is needed. Fiber optic cables were at first very slender and flexible, used in surgeries and in house-hold decorations.

The manufacturing technology improved and soon manufacturers were spinning out miles of cable for a new application - data transmission lines. These lines can be up to two inches across. The cable consists of thousands of pairs of optic fibers. Each pair carries data for phone, computer, fax, etc. Since the sides of the cable are reflective, there is no need for insulation or shielding around each fiber, as in old phone lines. This translates to more pairs in a smaller space. For us in the hobby, this created one of the newest gem treasures - fiber optic cabs. In order to make a fiber optic cabochon, the cable scraps are first cut into small lengths. Either the cable is then cut into spheres, or it is sectioned parallel to the length of the fiber. Once the slices are made, it is cut much like any other gem. Care must be taken however, to protect the ends of the cable from splintering, or catching cutting dirt, abrasives, etc.

There is an interesting thing about fiber optic gems. If you look at them from a 90 degree angle from the eye of the gem, the gem will be transparent to light, maintaining its properties for light transmission.

from Glacial Drifter 6/02 via GEM CUTTERS NEWS 5/2001Rockhound Roundup, 5/99, via

Dopping Hints

If you follow these steps, you should not have problems with your stone adhering to the dop wax. First, the stone must be completely clean and oil free. Use soap and water or acetone or lacquer thinner to remove oil from the stone. Your cleaning method will depend on the type of cutting fluid, type of stone, and the stone's porosity. After cleaning, water should not bead up on the stone, indicating the stone is completely oil-free.

Choose a dop stick that is as large as possible to use with your stone. The dop stick diameter should be at least 50 percent of the diameter of the stone. 75 percent is better. This gives more area for adhesion and also minimizes bending forces on the dop wax. Next, the stone must be heated for wax to stick. Are you heating the stone before putting it on the hot wax? That is a critical step. Put the stone on the flat surface of the wax heater; face down, with a small bit of wax on the backside of the stone. When the small bit of wax starts to melt, the stone is hot enough to dop properly.

Gem Cutters News – May 2010 via Ore-Cutts, January 2010

An May HAPPY BIRTHDAY

Remembering a couple of old members
Doug Wilson 1
Polly Wilson 24

EMERALD (Greek: smaragdos) it supposedly soothes the eyes, preserves chastity, cures dysentery, prevents epilepsy, drives away evil spirits

May Anniversary includes:

None this month

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 May

Main Goodies provided by club.

Lapidary Corner (Special request from a new member)

YOUR SOLDER WON'T FLOW?
by Alice Davis

Sometimes when you are trying to solder your bezel on the flat piece of silver which forms the base plate—your solder just won't flow.

Do not hang in there until death do us part. Stop. Drop the whole works in the pickling solution. Incidentally, your pickling solution is going to work a whole lot faster and better if it is hot. If you have a hot plate with a very low setting, this will do just fine. It is not recommended that you let it boil or bubble on top of a kitchen stove. It is an acid and it will ruin the top of your stove. After your silver is clean, rinse it in cold water. Then try again. If you are really having problems, try this. After pickling and rinsing, sometimes your silver looks spotty. I have a little container with some powdered pumice in it. Make a paste of it and scrub up your silver with the pumice and an old soft toothbrush. Then take the last step—really scrub up your hands good. Only handle your silver on the edges.

Sometimes your solder is dirty. This can mess you up. Be sure to flux your solder. I prefer to solder the bezel to the base plate with the flame under the whole works. It prevents that bezel from melting. I have a little stand that holds the item up and it has four stainless steel wires stretched across it on which I place the piece to be soldered. Remember the solder follows to the heat. So if you are soldering from above, a lot of times the solder will climb up the bezel instead of flowing around the bottom like you want it to. This is why it's a good idea to apply your heat from underneath.

from the Roadrunner March 2003 Pegmatite 11/78, via Rockytier 2/03

FLAT LAPPING WITHOUT A MACHINE

The process of flat lapping is so simple that anyone can do it even if you don't have a flat lapping machine. So go to it and polish the bookends you want, or that clock face. Just get a piece of aluminum about 12-14 inches square. (Larger for larger pieces.) Place it on a flat surface. Take a teaspoon of 120 grit (or even 90 grit if you have saw marks on your slab.) Mix your grit with Vaseline or water. (I like Vaseline because it holds the grit better, doesn't dry out and doesn't splash.)

Now take your slab to be polished and dop a piece of wood to it so that you have a handle and can hold it down on the grit. Just keep twisting it over and around on the grit. Be sure that your grit is always under the slab. Don't run it over dry aluminum. Move the slab in any pattern you wish, adding grit as you feel necessary. Keep at it until all the saw marks are well gone. Wash the stone and aluminum between grades of grit using progressively finer grits as you go. The slab should now be ready for polishing.

To polish, use a piece of leather about 12x12 inches. Stick it to a board and keep it for polishing only. Don't tack it down because the tack heads can scratch. Put your favorite polishing mix all over the leather and start polishing your stone. This is the oldest way to polish slabs and it still works well, if slowly. In answer to the statement that it will take a long time, a question, "What else would you be doing?"
The Glacial Drifter 3/03 via THE SOUTHWEST GEM 2/03

Field Trips (2010) 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"

Rockhounding Clues and Tips

by C. E. Johnson from El Gambrosino, April 2010

There are many clues out there in the field to guide us, so we just need to know what they are and what they mean, and of course we need to be observant and curious, or we will be just wasting our time.

Assuming that we are already out there in the field, anything that appears uncommon or odd such as rust or stains, sudden changes in color of rock or its grain-size, or differences in compositions, may be worth investigating closely, for instance, rust or stains could be "oxidation" products of mineral deposits containing one or more metalbearing minerals such as those of iron,

copper, lead, zinc, uranium, tungsten, manganese, nickel, cobalt, molybdenum, bismuth and silver (in the form of a chloride). Metal-bearing deposits, of course, indicate a mineralized area, so whether or not you are interested in the metals, such an area is very much worth investigating for other types of minerals. However, even many of those metallic minerals often occur in very attractive forms, whether beautifully crystallized or not.

Sudden changes in color of a rock formation could mean "segregations" or "differentiations" of some of the rock's "accessory" minerals (which are more desirable or valuable than the usual common "rock-making" minerals), or "hydrothermal" alteration of parts of the rock formations (which is a good indicator of mineralizing solutions in the area).

Any increase in texture or grain size of an intrusive igneous rock formation such as one of the granite family, would be especially encouraging for several reasons. because one or more of the rock's "accessory" minerals would be especially valuable in larger sizes; and such rock formations often breed "pegmatites", which are always very much worth exploring because of their very special valuable minerals typically occurring in very large sizes, and often very well crystallized. Of course, probably most of us are familiar with quartz or calcite "vein" material, and the significance of it.; and the presence of certain "indicator" minerals, and other clues are always a plus, but I can't include them all in this article.

Lava flows with many cavities (or "bubble-holes"), are fairly obvious, and they are often happy-hunting-ground for agate material and zeolite crystals, etc. Our best clues are rock formations, to begin with, if we are familiar with them, because areas can be chosen before leaving home, simply by using geologic maps, which describe the types of rock formations shown in any particular area. However, with or without a geologic map, the usual clues as shown above are standard procedure for rockhounds and prospectors.

We always have rock formations wherever we go, and the types of formations determine whether or not any of the above clues will exist in any given area; and what those clues will be and what minerals to expect, so learning enough about rocks and minerals to be able to use geologic maps as a very valuable tool is of course the best approach to rockhounding and prospecting, and I highly recommend it. This and your usual visits to the usual pay-to-dig collecting sites compliment each other perfectly. There are many potential areas out there, and geologic maps are a great help in choosing which areas are favorable for which type of minerals before leaving home, and of course, will guide you in the field.

It's not necessary, of course, to be familiar with rock formations to explore for minerals, but if you are naturally curious and you enjoy exploring, at least do yourself a favor and take samples and make notes of those curious-looking areas while traveling to & from those pay-to-dig collecting sites, and find out what your rock samples are and what relationship they may have with what kinds of minerals. Surely there's someone in your community that you can ask about it, at schools or libraries, universities or colleges, local U. S. G. S. Offices, or Bureau of Land Management, or forestry service offices, etc.

The RockCollector May 2010 via Happy Hunting Gem Cutters News – May 2010

Agate Formation

The mysteries surrounding the formation of agates have long been debated and argued over for thousands of years, as long as they have been collected and fashioned into beautiful Jewelry. It has only been in the last 200 years however that serious investigative attempts have been made to explain their formation. We will not attempt in this page to cover all the detail as you will probably drift off into another world well before getting half way through the explanation!! but we will cover the basics which are interesting and never ceases to amaze us

Agate is chemically a form of micro crystalline quartz called chalcedony. Chalcedony in it's purest form is colorless to pale grey so Agate essentially is an impure form of Chalcedony. The distinguishing features of agate is the colored bands which are caused by natural impurities such as iron (red/brown color) or manganese & cobalt

Agates occur mainly in small rounded nodules (lumps) within volcanic rock (lava). The agates essentially just occupied the sites of gas bubbles which formed as the lava cooled over millions of Years research has shown that agates do not form in the final cooling stages of volcanic rocks but only after complete cooling and burial of the flows to a depth of 100 to 200 meters. When this occurs, silica bearing solutions penetrate the lava and fill the bubbles with agate forming material

Agates are found throughout the world mainly occupying gas cavities in basalt rocks aged between 3,480 million [Pilbara, Western Australia] and 13 million [Yucca Mt] years old. The formation of lava flows and the formation of agates are not contemporaneous or even connected events. Lavas contain gases held under pressure before being erupted on to the earth surface. At the time of eruption as the pressure is reduced the space this gas occupies increases and gas bubbles form. The gases mainly involved include water vapor, carbon dioxide, sulphur dioxide, chlorine and even hydrogen sulphide. Many of these bubbles burst to the surface and the gas is vented but as the outer lava layer cools some of the gas bubbles are trapped. These bubbles are called vesicles when the lava cools and later when filled with celadonite or agate become amygdales. Amygdaloidal [from the Latin “amygdula”, an almond] lava is so called because the original vesicular lava contained almond-shaped cavities. As well as almond shapes these cavities can be totally misshapen, round, oval, almost flat or most commonly bun shaped. The viscosity of the fluid rock through which the bubble is ascending may determine this shape. Heddle described amygdale shapes as round, rod-shaped, pear- or balloon- shaped, as axe-shaped and even wine bottle shaped.

These subsequently become filled with agate forming materials. Agates can also occur in fissures within the rock called veins, or as long filaments, similar to but more numerous than veins, called stringers. Agates can also form within sedimentary rocks as nodules that are the result of the replacement of a former mineral or some organic material such as coral.

The feature that most agates have in common at least is the region of banded chalcedony. This banding occurs as two distinct and perhaps not connected parts. There are the so-called growth ring bands of chalcedony and those of the colored bands that are the result of the chemical deposition of mainly iron oxides. To the naked eye the width of these second bands may vary randomly in the mm range. However by examining thin sections of agates with the polarising microscope visual banding is resolved into a concentric succession of zones on a micron to sub-micron scale.

An interesting characteristic that is almost universal within agates is a distinct band of “first generation” chalcedony. This band is in immediate wall contact and may vary from 1-2 mm thick. It usually has a distinctly different morphology to the inner layer.

The outside of the agate nodule is commonly covered by a soft green mineral called celadonite that is a breakdown product of the lava. This green outer coating is particularly well seen in agates newly removed from the host rock. Occasionally this outer coating can be red, brown or white but all of these thin outer coatings are composed of material from the chlorite group of minerals.

The banded region itself consists of layers made of fine crystalline and untwisted quartz fibers that alternate with layers made of even finer and twisted fibers. This twisting can be seen under the polarizing microscope by a change of birefringence along any one fibre. The fibers can range in thickness up to about 0.5 microns and can be up to a few centimeters in length. The fibrous chalcedony is intergrown with variable amounts of another form

of silica called moganite. In agate, moganite cannot be observed by the optical microscope but can easily be detected by powder X-ray diffraction. The presence of moganite, which rarely occurs as a pure mineral has been confirmed by powder X-ray diffraction within agate samples. The moganite:quartz ratio is often not uniform but shows a cyclical pattern that correlates with the observed cathodoluminescence (color and intensity) pattern.

Agate structure can therefore probably be interpreted as alternating formation of fine-grained, highly defective chalcedony inter-grown with moganite, and coarse-grained low defective quartz. It could therefore be hypothesized that cyclical variation in the moganite content must be a general feature that is connected to the mechanism of agate genesis

The coarse visual color banding seen in agates is an independent feature imposed on the compositional zonation by relatively long-term variations in the deposition of pigmenting impurities. Although agates are composed almost entirely of SiO2 it is the trace quantities of various other elements that give agates their colors and lead to their characteristic banding. Most agates are red and blue, although in reality the "red" will vary from pale pink through orange to pillar-box red, whilst the "blue" will vary from grey-blue to cornflower blue through to almost black. Other rarer colors include yellow and green, or white bands standing out from the background hues. Dark browns, even blacks and combinations of all of the above can produce a whole range of strong to pastel shades, each agate being either subtly or completely different from its neighbor. Almost all of these great varieties of color are due to oxidized iron.

Trace element composition of agates varies widely from location to location but some trends are common to almost all agates of igneous origin. Trace element data are similar for agates from both acidic and basic volcanic hosts. Germanium and Boron are the only elements beside Silicon, which is enriched in almost all agates compared to the Clarke values of the lithosphere (1.4ppm for Germanium, 12ppm for Boron). Unusually high concentrations of uranium are also sometimes detected in agates. Agates contain impurities less than p.p.m. [parts per million] level for most of the elements except Sodium, Potassium and Iron. Nonetheless, even red chalcedony bands often have relatively low concentrations of substitutional Iron, indicating that the color is caused by fine dispersed iron oxides not incorporated into the structure of the fibers. Iron oxides therefore occur in all the colors, which are met in agates including even the rarer green and purple tints. [from the Internet]

Nancy's Rocks

At the show, we are often asked to identify "rocks". As anyone that has been in the hobby knows, that can be a daunting task unless one has some basic information. Nancy Dugger several meetings back has asked that each of us come to a meeting with ten "rocks" from our various Field trips and personal rock hunting outings. Then we tell what we know about the samples such as location of the find, postulated identification, geological history layer (if known), any actual tests you may have run on them such as Sp gr, hardness, streak, etc. The idea is to get us thinking about identification.

SCFMS and MEMBER CLUB GEM SHOWS			
MAY 1-2 LUBBOCK, TX Lubbock G&MS Lubbock Civic Center	MAY 29-30 FORT WORTH, TX Fort Worth G&MS Will Rogers Mem. Ctr	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			

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.
May 17, 2010, Clear Lake Park Building
5001 NASA Road One, Seabrook, Texas

Member of:

Next Annual Show
February 27 & 28, 2010
Pasadena Convention Center

CLGMS is on the Web: (new location)
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

2010 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 2011……..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. 2010: 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 2010 – 11326 Sagetrail Houston, TX 77089-4418

Deadline for June Issue is May 28, 2010