



A monthly publication of the Clear Lake Gem & Mineral Society

VOLUME 37 JANUARY 2011 NUMBER 1



**NEXT MEETING:** January 17, 2011  
**TIME:** 7:30 PM  
**LOCATION:** CLEAR LAKE PARK BUILDING  
 5001 NASA ROAD ONE  
 SEABROOK, TEXAS

### The PROGRAM FOR January...

The program will be **The Upcoming Gem Show**: Presented by Al Pennington. It's that time again and so Al will share with us the needs of the various booths and stations to be manned by club members.

### 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	Editorial
December Minutes 2	 <p><b>Stoney Statements Salutes some of the hard working members of the CLGMS. A Past Member and Scouts at the 2008 Show</b></p>	<p><b>ITS SHOW TIME ONCE AGAIN.</b>            Time to prep for the next show and we will be talking about some of the preparations at the next general meeting. Ed Tindell will be looking for folks to begin thinking about who can help setup. We will be using a rental truck again this year.            The announcement for a work day (if required) after the general meeting. I will have the sign-up sheet for work areas for the show at the meeting so everyone that can, should show up at the general meeting.</p> <p><b>NEW ADDRESS, phone number, e-mail address, etc? Not seeing your Birthday or anniversary? Contact Al Pennington and Mike Flannigan, at the Newsletter address</b></p>
A Glean In Your Eye 2		
Topaz Cures 3		
Birthdays/Anniversaries 4		
Lapidary Corner FLAT LAPPING WITHOUT A MACHINE 4		
FIELD TRIPS 2011 SCRIBE Meeting 5		
Precious Opals 6		
Show Dates 7		

"Happiness? A good cigar, a good meal, a good cigar and a good woman - or a bad woman; it depends on how much happiness you can handle." George Burns

### **Minutes of the Clear Lake Gem and Mineral**

**December 21, 2009**

Bob Brock called the abbreviated Christmas Meeting to Order after a wonderful Christmas Dinner. President Bob Brock opened the meeting with the Pledge of Allegiance. The minutes of last month's meeting were approved.

Bob told us he had a wonderful time as President and will serve again this year.

Al Pennington gave a quick show status and then we moved to the main business, electing the new 2011 Officers. The slate was:

President – Bob Brock

Vice President – Ed Tindell

Secretary – Annabel Williams

Treasurer – Loyce Pennington

Program Director – Trina Willoughby

Board of Directors – Cheryl Tindell – David Tjiok - Trina Willoughby Lester Gary

Newsletter Editor – Al Pennington

Bob started through each position, but Al Pennington moved we approve the slate by acclamation, Ben Dugger seconded and all members voted in favor of the new officers.

There was no New Business or Old Business so the meeting was adjourned.

Respectfully submitted

Al Pennington

Substituting for the Secretary

### **A Gleam In Your Eye**

**by Mel Albright, Safety Chair**

Looking for rocks? There's a gleam in your eyes. Doing some soldering? There's a gleam in your eye. Driving into the sun? There's a gleam in your eye. Enjoying the scenery? There's gleam in your eye. Boy, look at that fluorescent stuff! There's a gleam in your eye.

Have you thought about what your eyes receive as you follow your hobby? The answer is radiation, of course. Most of that radiation is in the visible light range and gives us no problems if it isn't too strong. But, some is infrared, some ultraviolet A and some ultraviolet B. The infrared is of wavelength longer than we can see. The ultraviolet is of wavelengths shorter than we can see.

But, radiation is all around us as we follow our hobby. The first source is the sun. We all know not to look straight at it. But, sunlight is reflected from any surface other than pure black and pure black radiates infrared when heated. Infrared energy hurts us by heating tissue. Your eyes are one place. Infrared re-radiates as heat - Darn that tool's hot! Although eye damage is more probable than skin energy, both are possible with visible as well as infrared. These rays can be focused by your eye lens so they cause retinal injury - up to blindness. IR also comes from UV lamps, resistance heaters, and flames (including welding and soldering) Ultraviolet hurts us - causes biological chemical reactions that injure us. A sunburn - eye problems - sensitivity to light - These are some of UV's effects. UV comes from the sun, of course. But it also comes from welding, plasma torches, gas discharge lamps ("black" light, mercury lamps, germicide lamps, welding and soldering torches, and the like). Too much UV can also blind you. Dangerous visible energy may come from

the sun, or from welding and soldering flames. The Commission International d'Eclairage (CIE) International Lighting Commission classifies radiation as follows: The numbers are wave lengths in nanometers. 100-280, far UV or UV-b (actinic); 280-315, Middle UV or UV-a (actinic);



315-380, Near UV, black light; 38-780, visible light; 780-1400, Near IR; 1400-3000, intermediate IR; 3000-10,000, far IR; and over 10,000, microwaves.

“Infrared (IR) energy produces harm by heating tissue. Ultraviolet (UV) energy can cause injury by triggering chemical reactions in proteins and other biological molecules.

This is termed photochemical injury. UV can also cause harm by heating tissue. Visible light can cause injury by heating, but visible energy with wavelengths below 550 nm can also produce photochemical injury. Although eye injury is more serious than skin injury, the skin and eyes are equally vulnerable to all wavelengths except those between 400 nm and 1400 nm. Energy with wavelengths between 400 and 1400 nm entering the eye can be focused by the lens and reach the retina at the back of the eye; therefore, retinal injury, which can lead to partial or even total loss of vision, is a serious concern at these wavelengths.” Source: <[http://www.llnl.gov/es\\_and\\_h/hsm/doc\\_11.02/doc11-02.html#26.8](http://www.llnl.gov/es_and_h/hsm/doc_11.02/doc11-02.html#26.8)>. For all radiation - there are safety glasses which will protect your eyes - actinic glasses for UV (see glass-blowing), sunglasses for visible, and darkened glasses for strong visible and IR. IF you are going to have much exposure, be sure to buy and use this safety equipment. Sun-block also protects the skin against UV.

FINALLY, laser light is extremely dangerous to your vision. Avoid being around them if you can. If you must be around lasers, there are safety glasses designed for that. Use them.

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### Topaz Cures

by Jim Moody

The use of a topaz to cure dimness of vision is strongly recommended by St. Hildegard. To attain the desired end the stone was to be placed in wine and left there for three days and three nights. When retiring to sleep, the patient should rub his eyes with the moistened topaz, so that this moisture lightly touched the eyeball. After the stone had been removed, the wine could be used for five days. A Roman physician of the fifteenth century was reputed to have wrought many wonderful cures of those stricken by the plague, through touching the plague sores with a topaz which had belonged to two popes, Clement VI and Gregory II.

The fact that this particular topaz had been in the hands of two supreme pontiffs must have added much to the faith reposed in the curative powers

- Excerpt from “The Curious Lore of Precious Stones”, George F. Kunz, 1913, J. B. Lippencot Company from Monongahela Rockhound News, 1/11 via The RockCollector 1/2011

**An January HAPPY BIRTHDAY**

Marvin Holbrook	4
Roy Garms	14
Keith Overton	14
Ed Tindell	17
Al Pennington	31

**Garnet (constancy**

Garnet is derived from the Latin granatum, meaning "seedlike," because the gem resembles the pomegranate.

**January Anniversary includes:**

Joyce Parker	9
Helen & Ron Kosler	14
William Cox	27

**2011 DUES ARE DUE****GOODIE GETTERS...For January**

Main Goodies provided by club.

**Lapidary Corner** ((Rerun from last year by request))**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

**TO GET A BETTER POLISH** on material that will undercut, such as sagenite, moss, plume agate and porous woods, etc., try this. First elevate the slice on a small object such as a jar ring. Completely cover the slice with water in a flat pan with some detergent and a shake of Comet cleanser. Boil about 10 minutes, keeping the slide covered at all times. Remove the pan from the heat, leave the slice in the pan until water reaches room temperature.

. Go through fine sanding, clean well, and spray with a coat of clear plastic. Let dry, fine sand again lightly with polish. This 4-step process fills in the porous spots in the material, enabling you to polish the surface. You will end up with a beautiful polished piece. For example, this thin coat over the iron in picture wood eliminates the shiny iron streaks.

*from The Glacial Drifter 03/03*

**SHOP HINT:** To make rock saws remain friction free, clean the saw blade perfectly clean and free from all oil and residue and then spray with **PAM**. It also works well on guides for the vise. However, whatever you do – DO NOT use STP in saw oil. It gums them up bad. From Golden Spike News, 7/00

**HELP! We Still Need a Show Dealer Chair**

Hello to all members. We are in need of a show dealer chair person. Duties include sending out our contracts and such things. We are getting close to the time for some of the late work and need a volunteer.

**Field Trips (2011)** by Ed Tindell**Hi All -**

Hi y'all! The first in the series of special 3-day Walker Ranch rockhunts scheduled for 2011 will take place on Friday, January 21; Saturday, January 22; and Sunday, January 23. We have had much more than our usual amount of rainfall throughout the area this summer, so the hunting should be spectacular, if we can find the rocks through the high grass!

1. A wonderful 10-section ranch south of Marfa which is, in places, just littered with agate. There's the famous Marfa Bouquet agate, black plume, a bright green agate that I haven't seen anywhere else in the Big Bend, and probably a bunch of things I haven't found yet! There have been very few rock hunters on this ranch, and it's very scenic and rough, so be sure to bring a camera!

2. East Needle Peak, near Terlingua and Big Bend National Park, is open again for the same \$35 per day fee as last year. The owner will accept cash or check. There's a little pompom agate there, but mostly there's patterned and moss agate, fortification agate, petrified wood, calcite, selenite, goethite after pyrite, and lots of fossils! The access to this ranch is extremely rough and a 4wd vehicle is required. If you don't have one, you can drive fairly close to the area and then hitch a ride with someone who does have the 4wd.

3. The Ritchie Ranch will again be open. This ranch is close to Alpine and has very gentle, rolling terrain. There's moss agate and jasper in a number of colors, but no plume agate to speak of. There are geodes and some fairly large (up to 3") quartz crystals, too. It's a great ranch for people with kids or physical disabilities, or those who are just beginning rock hunting and don't want to stay out all day. The cost is \$5 per person entrance fee, and 75¢ per lb. for the good agate you take. The owner will accept cash or check. The Ritchie Ranch is accessible by most vehicles, although high ground clearance is still a plus!

To reserve a place on the Walker field trip:

1. Reply to this email or email me at [agatehunter@sbcglobal.net](mailto:agatehunter@sbcglobal.net) that you wish to go.

More later,



Thanks,  
Ed Tindell 2011 CLGMS Field Trip  
Coordinator  
a.k.a. "The Official Cat Herder"



## SCRIBE MEETING - JANUARY 22, 2011

By Doug Arnold  
CFMS Bulletin Aids & SCRIBE  
President

If you're headed to Quartzsite, Arizona, you have an opportunity to hear Rock & Gems magazine senior editor Bob Jones. Jones will be the guest speaker at the SCRIBE meeting on January 22 at the Community building in Quartzsite.

SCRIBE is an international organization of current and former Bulletin Editors, Writers and Webmasters of amateur gem, mineral and earth science societies. The community center where the meeting will be held is on Moon Mountain Road just north of Main Street. There is a \$2 registration for the meeting which helps pay for refreshments and building rental. Registration begins at 9 a.m. MST which is 8 a.m. PST.

If you come, bring a rock or mineral with you to share. We always try to have a free drawing at the end of the meeting and hope to have enough rocks and minerals to share with everyone attending. Bring your bulletins, too, to share with the other editors. This is a great opportunity to visit with collectors from all parts of the country. In the past we have had members from California, Arizona, North Carolina, Idaho, Washington State, Utah and even Alberta, Ontario and Nova Scotia, Canada.

Visit SCRIBE at [scribe.rbnet.net](http://scribe.rbnet.net) or our new Facebook Community page. To find it go to your Facebook home page and type SCRIBE in the search. You'll get a number of sites but choose the one that has a picture of a building. That's our meeting site in Quartzsite

From SCFMS Newsletter 12/10

## Precious Opals

and Why They Display Color

By Sarah Lee Boyce and Carl Talbott

Opal, a mineraloid of non-crystalline silicon dioxide and water, may be found in the fissures of common porous rocks such as sandstone, rhyolite, marl, and basalt as well as in fossils. Opal forms when large quantities of terrestrial waters wash over sandstone (or similar porous rock or fossil) and chemically weather it such that large quantities of dissolved silica percolate through the rock strata until it reaches an impervious level. As the silica solution comes to rest, it spreads out along this level, fills voids or cracks within the strata, and begins to solidify over time through evaporation.

Although Opal is said to have no crystalline structure, at the micro-level, one type of opal (known as OpalAG) contains silica spheres with diameters on the order of 140 to 300 nanometers organized in a number of cubic or hexagonal close packed- lattices (see Figure 1) that are several hundred times larger than the fundamental silica spheres. Water fills the space between the silica spheres, and when the spacing between packed planes of spheres is approximately one-half the wavelength of a visible light component, that wavelength light can be diffracted by the grating created by the stacked planes.

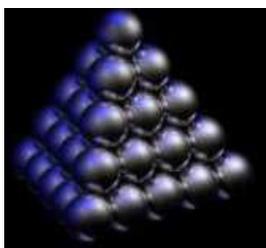


Figure1: Close packed–lattice example

These internal colors, then, depend on the spacing between the planes (i.e. the size of the spheres) and their orientation with respect to light.<sup>1</sup> The observed color is related to the size of constituent spheres in each close-packed-lattice (i.e., blue wavelengths will be diffracted by the smaller sized spheres of approximately 140 nanometers diameter whereas red wavelengths will be diffracted by larger sized spheres of approximately 240 nanometers). First discovered and described by Australian researchers in 1965, this phenomenon is called a “play-of-color” or “fire” and is the hallmark of precious opal.<sup>2</sup> Another type of opal (Opal-AN) is amorphous watercontaining silica-glass, known as Hyalite,<sup>3</sup> which has a glassy and clear appearance with an internal play-ofcolor. Under long-wave black light, Hyalite glows bright green. If there is no presence of an internal play-of-color in either Opal-AG or Opal-AN, then these are called common opals even though the silica sphere structure may be present.

The play-of-color in precious opal has color patches that often vary in size and shape and that change color as the direction of light sources, orientation of the opal, or direction of viewing is changed. This constitutes the opal’s “fire pattern” commonly classified into categories such as pinfire, flashfire, and harlequin.<sup>4</sup> Since both Opal-AG and Opal-AN are both noncrystalline substances, in the presence of low levels of pressure or heat, they can gradually transform into Opal-CT and then into Opal-C both of which are microcrystalline in nature where the spheres of silica grow into blades of cristobalite and tridymite.



These forms of opal have no play-of-color (and therefore are not precious opal) because the close packed lattice structure is disrupted by the microcrystalline growth. Such microcrystalline chalcedony, for example, can be found in the Monterey formation on the

coastal regions of south and central California where massive bands of opal have undergone this transformation.<sup>5</sup>

Moreover, Oregon Thundereggs may have any one of a variety of Opal-CT or Opal-C fillings that can be opaque blue, opaque red, translucent pastel blue, translucent yellow, translucent red, white, or colorless, and a small percentage may show a play-of-color being Opal-AG or Opal-AN.

In more recent news, NASA’s Mars Reconnaissance Orbiter (MRO) spacecraft has found evidence of hydrated silica (opal) on the planet Mars. According to Dr. Ralph Milliken of NASA’s Jet Propulsion Laboratory, the MRO has detected “numerous outcrops of opal-like minerals, commonly in thin layers extending for very long distances around the rim of Valles Marineris.” This suggests that water remained on the Martian surface for an extended period of time. “What’s important is that the longer liquid water existed on Mars, the longer the window during which Mars may have supported life,” said Dr. Milliken. Rockhounds, on the other hand, may have something else in mind rather than life on Mars.

**References:**

1. Graetsch, H. (1994), “Structural Characteristics of opaline and microcrystalline silica minerals”, “Silica, physical behavior, geochemistry and materials applications”. Reviews in Mineralogy, Vol. 29, Editors PJ Heaney, Connecticut Prewitt, GV Gibbs, Mineralogical Society of America.
2. Downing, Paul B. (2007), Opal Identification and Value, Majestic Press, Estes Park, Colorado.
3. Pough, Frederick H. (1953), A Field Guide to Rocks and Minerals, Houghton Mifflin Co, New York.
4. Downing (2007), pp. 53-68.
5. Rogers, Austin F. (1928), “Natural History of the Silica Minerals”, American Mineralogist, Vol. 13, pp. 73- 92  
From The RockCollector 1/11 Lodestar 12/10, via Canaveral Moonstone, 1/11



**YOU CAN WIN.....IN 2011**

**Chihuahua Desert Gem & Mineral Club, City of Alpine and THE SOUTH CENTRAL FEDERATION MINERAL SOCIETIES invites you to:**

"ALPIHE AGATE FESTIVAL", 22nd Annual BIG BEND GEM & MINERAL SHOW awaits you AT THE ALPINE CIVIC CENTER, Hwy 90 W. & 13th St. N. in Alpine, Texas  
 FREE ADMISSION, Grand Prize ~ Door Prizes, Kid’s Corner ~ Silent Auctions, Demo Dealers ~ Field Trips, Rollin’ Rock Club Meeting!

**COME JOIN US FOR A GREAT SHOW! April 15-17, 2011**

SCFMS and MEMBER CLUB GEM SHOWS			
JANUARY 15, 16 FREDERICKSBURG, TX Fredericksburg Rockhounds Lady Bird Johnson Municipal Park	JANUARY 21-23 TYLER, TX East Texas G&MS Rose Garden Ctr.	FEBRUARY 19-20 GEORGETOWN, TX Williamson Co. G&MS San Gabriel Park	FEBRUARY 26-27 PASADENA, TX Clear Lake G&MS Pasadena Convention Ctr
MARCH 05-06 ROBSTOWN, TX Gulf Coast G&MS Regional Fairgrounds	MARCH 19-20 LIVE OAK, TX Southwest G&MS Live Oak Civic Ctr. 8201 Pat Booker Rd.	APRIL 09-10 ABILENE, TX Central Texas G&MS Abilene Civic Ctr. North 6th and Pine	APRIL 15-17 ALPINE, TX "Alpine Agate Festival" SCFMS AND CHIHUAHUAN DESERT G&MS Alpine Civic Ctr. Hwy. 90W & 13th. St.

STONE 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.  
 January 17, 2011, Clear Lake Park Building  
 5001 NASA Road One, Seabrook, Texas



Member of:

**Next Annual Show**  
 February Feb 26-27, 2011  
 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

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 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. 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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