

GOLDRUSH LEDGER



CHARLOTTE GEM & MINERAL CLUB
JANUARY 2011

Prez Sez ...

A new year and a new administration. The past two years under Jack King's presidency produced some rather impressive changes. Switching meeting venues from Discovery Place to the Nature Museum worked out quite well resulting in an easily accessed and very comfortable meeting place.

Attendance at meetings has grown with an obvious shift towards a much-needed younger membership demographic. We put together a successful "Rocks Rock" program at the Nature Museum this past June and museum management has asked us to take on a full weekend program in May of 2011. With changes in advertising, marketing and financial commitments, we expect to turn this effort into an annual fundraiser/public relations event for our organization.

So, on behalf of all the members of the Charlotte Gem & Mineral Club, thank you Jack for all your efforts.

Our new slate of officers has been installed and I particularly want to welcome Donna Forstner on board as our new treasurer and Denise Trufan as Vice President. These are two very important administrative

positions and I'm sure you will be hearing a lot more from them in this new year.

Our past president, Jack King has volunteered to act as field trip chairman with Wayne Abercrombie as his very able assistant. Watch for future field trip announcements in the newsletter and if you have any questions, please address them to Jack at <http://www.jackkretired09@gmail.com>.

Ron Gibbs may be taking some time off from his duties as Newsletter Editor/Webmaster due to health-related problems. For those who may not yet have had the privilege of working with him, Ron is a quiet, behind the scenes force/talent who is personally responsible for so much of the current success of our organization. Our thoughts and prayers are with him.

Some of the club activities we will be focusing on this year include:

- (1) Fund raising,
- (2) Finding a clubhouse where we can more conveniently hold classes (and perhaps accommodate Jr. Rock Hound meetings)

(3) Getting more members involved in the initiation and management of club committees and activities.

(4) Creating a successful "Rocks Rock" weekend at the Nature Museum

There's a great deal of satisfaction to be had in lending a hand in the growth and development of an organization like ours and I hope you

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2011 CGMC Officers & Board

President

Murray Simon
drsimon@mindspring.com

Vice President

Denise Trufan
dtrufan@lcsd.k12.sc.us

Secretary

Pat Walker
704/523-5261

Treasurer

Donna Forstner
cinder_ella@bellsouth.net

Directors at Large

Scott Stewart
sstewart5@bellsouth.net

Mary Fisher
mefisher@att.net

Bulletin Editor

Ron Gibbs
theimage1@aol.com

Past President

Jack King
tackyjackie@bellsouth.net

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open

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lsimon1@carolina.rr.com

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tackyjackie@bellsouth.net

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Pat Walker

WEB Site
www.charlottegem.com

will all respond positively to future requests for help.

If you have questions or suggestions about future directions for the club - or if you want to volunteer for a committee or future activity, I can be reached at:
drsimon@mindspring.com
or (704) 543-6651

Murray Simon, President Charlotte Gem & Mineral Club.

January Cabochon Classes

As part of our ongoing continuing education program, the Charlotte Gem & Mineral Club will hold cabbing classes at Sarah Lee Boyce's house on consecutive Saturdays - January 15 and 29.

These classes involve individualized instruction by a widely recognized expert (Sarah Lee) who has taught thousands of students at the William Holland School and Wild Acres.

This is a program suitable for someone who has never worked with a stone before or the experienced cabber who wants to go to the next level. If you have a piece of rough material you've been anxious to cab, this is your opportunity. If you do not have raw materials, Sarah can provide them.

Seating is limited and the first to call will be accommodated.

In order to sign up you must call Sarah directly at (704) 827-1431.

Pre-Meeting Jewelry Class

Before the regular monthly meeting of the Gem and Mineral club, Linda Simon has an open workshop and teaching session for the creation of wire-wrap and simple jewelry.

The class utilizes, beads, bangles, copper, silver or gold filled wire to create jewelry pieces.

Linda has the needed tools and can sell you the small amounts of wire necessary to complete any project. Ear-rings, bracelets, pins, and necklaces (pendants) are all open game for creation.

The classes begin about 5:00 pm before the 7:00 pm start of the evening meeting.

They meet at the Nature Museum and are very informal. Even if you are not currently interested in taking a class come out to visit and watch what they do. Who knows you may not be able to stop yourself from the creative process.

Dues are Due!

The 2011 annual club dues are payable by the end of the year, the club treasurer will be available at the upcoming meetings, or you download a membership form from the Club WEB Site and send it to Donna Forstner.

\$20 for a single membership
\$25 for a family

www.charlottegem.com

Charlotte Gem & Mineral Club

Monthly Meeting - January 20, 2011
Thursday January 20th, 2011 7:00 pm

Location: Charlotte Nature Museum 1658 Sterling Road
Charlotte, NC 28209 (704) 372 - 61261

“Physical and Optical Properties of Minerals and Gems”

presented by John Rasmussen,

an accredited Jewelry Professional from Gemological Institute of America with a BS and MS in Geology from Rensselaer Polytechnic Institute and Gemology education from International Gem Society.

He will even bring samples of mineral, gems and instruments!

See you at 5:00 for a Jewelry class by our own Linda Simon. There is a small fee for materials.

The presentation starts at 7:00. Make sure you bring your gem-related questions to THIS meeting. You don't want to miss this one!

Charlotte Gem & Mineral Club

Junior Rockhounds Meeting

Saturday, January 29, 2011

“Geology 101”
- Earth History
- How Rocks are formed

2 meeting locations TBD: North/South Charlotte.

Contact Mary Fisher to RSVP and get meeting times/locations.
mefisher@att.net

Using a Digital Camera to Photograph slabs, cabs, gemstones, minerals and jewelry - Part XVII *by ron gibbs*



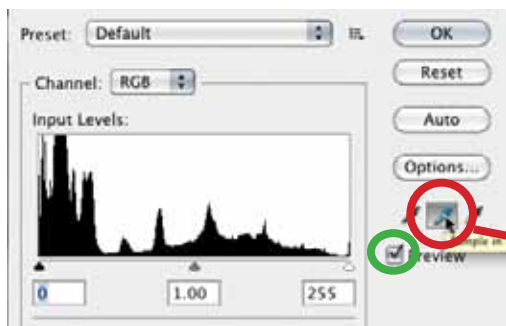
The same tool that we used to adjust the tonality of an image can also be used to color correct in some cases. This method works when the photo has a consistent color cast over the entire image. For instance in the case of the white calcite (correctly colored in the first photo) it is possible to fix an image with a bad color cast using the eyedropper tool in the histogram (level command).

The second image on the page shows the calcite with a reddish shift in hue over the entire image. This could have been caused by taking the photo with improper color balance set on the camera. This is fairly easy to correct by using the eyedropper tool. Bring up the histogram (bottom left) and select the middle (gray) eyedropper (red circle). Place the eyedropper on any portion of the image where there should be neutral gray, and click once.



The software determines how much of a color shift there is at the point where the eyedropper is placed and adds the appropriate corrective color to make that point turn neutral gray. It adds the correction to the entire image, thus correcting it everywhere. In this case the resultant image is shown at the bottom of the page, and is much better than the red original.

You can continue to select different points in the image with the eyedropper and click over and over until you get a desirable result. The result is updated in the image as long as the “preview” box is selected (green circle). This technique works well when the entire image has a color cast and when there is a true gray or neutral color in the image. (Neutral can also be black or white.)



This technique is not very successful when the image has a non-even color problem. For instance if the photo had color on one side of the subject matter from something like a colored



reflection then it does not work particularly well. This example is shown in the next photo at the top of the next page. Here the calcite was photographed with a red wall on the right side and it reflected the red color only onto the right side of the sample.

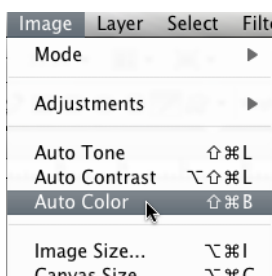
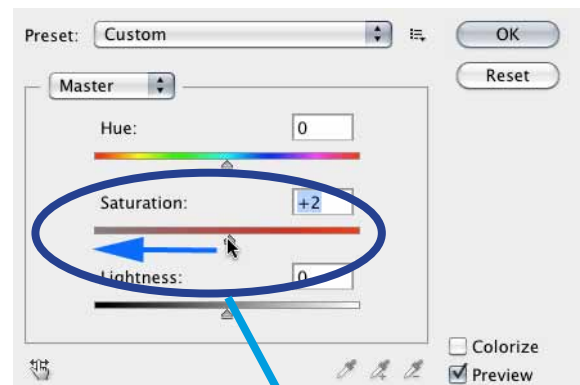
In this case if the gray eyedropper

were used at the yellow circle, the resultant image would be corrected to make the red neutral, but all areas in the photo that were not originally too red would become too cyan. See second photo on this page. The red area under the eyedropper is now white, but the rest of the image has been color shifted too.

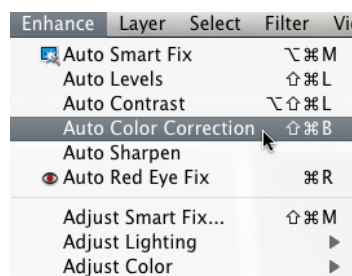
In this particular case there is a “sneaky” way to color correct the image, but it is only available because the image is entirely neutral tones. White calcite, black background and gray scale card at the top. In this case the Hue/Saturation tool in Photoshop or Photoshop Elements can be used to desaturate the image (desaturate means to remove all color). See the figure with the blue circle, it show how to use the Hue/Saturation tool to desaturate the image directly above. The saturation slider is moved all the way to the left removing all vestiges of color. The resultant image is shown below the Hue/Saturation tool. Again this only works when the entire image is made up of roughly neutral tones.

In both Photoshop and Photoshop Elements there is also an “Auto Color” command. I have found this to work best AFTER the image has been adjusted for correct tonal range. I first adjust the histogram as described in the previous article and then try the Auto/Color command. If the color shifts are minimal to begin with, then this command will often work, but if there are strong color shifts in the image, then I find this command usually just makes them worse. In my experience Auto Color works about 10-15% of the time, so I don’t use it very often. It’s worth a quick try, then move on to more controlled techniques. (See commands at bottom of page.)

We’ll continue with color correction in the next installment of this series. We’ll look at making selections of only a portion of the image and then color correcting them without effecting the entire image. This technique can also be used to control other changes in an image in a similar way, like changing only the tonality of part of an image.



Current version of Photoshop



Current version of Photoshop Elements

MINERALS- Precious Opals and Why They Display Color

by Sarah Lee Boyce and Carl Talbot

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 Opal-AG) 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.

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.¹ 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.²

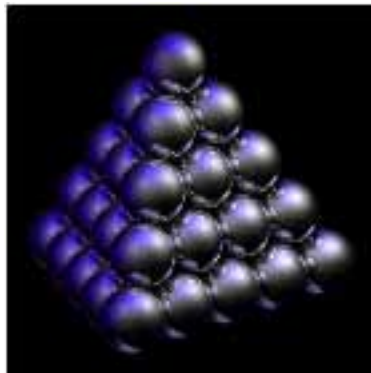


Figure 1:
Close-Packed-Lattice Example

Another type of opal (Opal-AN) is amorphous water-containing silica-glass, known as Hyalite,³ which has a glassy and clear appearance with an internal play-of-color. Under long-wave blacklight, 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.⁴

Since both Opal-AG and Opal-AN are both non-crystalline 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.⁵

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 lay-

ers 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,AustinF.(1928),“NaturalHistoryoftheSilicaMinerals”,AmericanMineralogist,Vol.13,pp.73- 92.
article originally appeared in the SFMS Lodestar Newsletter, December 2010

Stamp Program Reminder

from Pat Walker

Just a reminder, the Liberty Bell stamps are no longer acceptable.



SFMS Stamp Program rules: all stamps must be trimmed with no more than 1/4” of paper around the stamp. Stamps torn from envelopes must be trimmed before Pat can turn them in.

If stamps are damaged or the envelope has been torn away under the stamp they will not accept them and they are discarded. Please trim before turning them in.

HISTORY: The SFMS stamp program, founded in 1999, is a volunteer action of member clubs of the Southeast Federation of Gem & Mineral Societies.

The purpose of the program is to offer free scholarships to participating clubs. At present, approximately 50% of the clubs in the Federation participate in the stamp program.

The only requirement to participate is: The club must be a member in good standing in the SFMS and contribute stamps to the program on a regular bases.

The drawing is held at the annual meeting of the SFMS. The number of scholarships awarded each year depends on the amount of money earned from the sale of the stamps. 100% of the proceeds from the sale of the stamps goes toward scholarships to attend Federation Workshops at William Holland or Wildacres.

Winners of scholarships have a choice of which school or workshop they wish to attend at no cost, however student must pay their own travel expenses to and from the school.

The number of scholarships awarded have steadily grown since this program began, if we continue to receive enough good quality stamps to sell.

Most used postage stamps have some resale value to collectors. Commemorative stamps and foreign bring in the most money, however other good clean definitive stamps only have a marginal value if they are off paper. One thing to consider when saving stamps is, are they desirable as a collectors item.



An Official Field Trip of Jacksonville Gem and Mineral Society (Jacksonville, FL) (HOST)
An Official Field Trip of the Charlotte Gem and Mineral Club

Saturday, January 29, 2011
8 am to 5 pm

Fort Drum Crystal Mine/ Rucks Pit, Fort Drum, FL

Cost per person: \$20 for DMC members/\$30 for others (bring a copy of flier)

It is reported that this is the only location in the world where calcified marine clam shells can be found. There have also been reports of fossils at this location. The main pit has been closed to public collecting, but have been advised that Eddie will bring in freshly excavated material the day prior to our arrival.

What to bring: Pants, sturdy shoes/boots, gloves and protective eyewear are recommended. Bring tools, buckets/cloth bag, and newspaper to collect, carry and wrap fragile specimens. The collecting area can be extremely wet and muddy. Bring a change of clothing along with plenty of water and a towel.

Directions: South on 1-95 to Vero Beach and take exit 147 onto State Road 60. At Yeehaw Junction, turn left or South on Hwy 441. Ft. Drum is on Hwy 441 approximately 15 miles south of the intersection of Hwy 60 & 441 (Yeehaw Junction). Go south of Ft. Drum General Store about .05 miles and turn east on 304th Street. Go about 2.75 miles to the quarry entrance (north side of road) Look for the Fort Drum Crystal Mine at the entrance.

Local Lodging:

Turkey Creek Campground—overnight camping—\$25
Closest hotels are in Okeechobee, FL—20 miles away.

Contact: JGMS Field Trip Coordinator: Lucy Miller email LucyAnn323@aol.com or 904-838-5026
Fort Drum Crystal Mine/Rucks Pit—863-634-4579



Honey colored calcite in clam shells.

To see many, many more examples do a search on Google Images and use the words: calcite clams

Tentative List of Courses for Federation Workshop at William Holland, June 12-18, 2011

OPALS with Sarah Lee Boyce
FACETING with Bill Roberts
SILVER I with Don Roberts
CHAIN with Dee & Bill Conybear
LAMPWORK with Ann Royer

CABOCHONS with Richard Shackleton
FUSED GLASS with Renee Kelley
WIRE I with Velima Lawson
ENAMELING with Bob Mattingly
SEED BEADING with Barbara Green