

GOLDRUSH LEDGER



CHARLOTTE GEM & MINERAL CLUB
AUGUST 2009

The Prez Sez ...

An opportunity with very short notice came to me last week when I learned that TOP GEM, a major wholesaler of rock and minerals out of Tucson was coming to Charlotte to set up in order to meet and sell to their regional dealers.

I contacted them and offered them the use of the old Camera World building and they agreed. They also invited our members to come to see what they have and to sell what they offer thru our members who are dealers.

Some of our members saw this as a way to raise the awareness of our club and what we do. This quickly moved into a mini festival in which our members will be in attendance at the same time that TOP GEM is here where some of our dealers will show and sell rough, slabs, and finished jewelry that they have made.

All club members are invited to come to this event. We plan on cutting geodes and doing cabochon demonstrations.

The dates are August, 12 thru the 15th. That is Wed thru Saturday and the location is 1809 Commonwealth Ave. Charlotte, at the corner

of Pecan and Commonwealth Ave. in the Plaza Midwood neighborhood.

Even though it is short notice, I have been told that at least a couple our local members will set up and sell and also do demonstrations.

Any member is welcome to come and set up at any of the days for a small donation to our club. Other dealers that I met at the Spruce Pine show have expressed interest in coming and setting up but as of this day that I am writing this, I have not heard back from them.

This is NOT an official gem and mineral show like we have done in the past. We are simply tagging on to one very large brand name in the rock and mineral world by some of our members setting up at the same time. A portion of dealers' sales will be donated to our club.

So, we invite you to come look at some pretty rocks and minerals and if one goes home with you, you will be helping our club too.

The next event which is an official event of our club is the Matthews Alive Festival where we set up for

Labor Day weekend and cut geodes. This is a MAJOR fundraiser for our club folks and it takes a lot of bodies to be in the booth helping folks select their choice of geodes, cutting the geodes, taking the money and so on. WE NEED VOLUNTEERS.

As usual, Jimmy Strickland and Harrel Suggs work very hard cleaning the saws, getting the saws and geodes moved to Matthews and are

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there most of the time. These folks need help! Please contact Jimmy and tell him what hours you can volunteer.

Sincerely,
Jack King, President, Charlotte Gem and Mineral Club

(P.S. If you have not paid your dues, please do so.)

Blue Ridge Gem Mine Info by Bill Ott

Good morning to the Charlotte Gem and Mineral Club. I am writing this morning because I ran across your website charlottegem.com this weekend and thought you might be intested in a Spruce Pine NC gem mining field trip some time in the future.

I have created a website for Spruce Pine that helps to list out many of the local gem mining facilities in the Spruce Pine area. I still have quite a few Gem Mining facilities to add to this list but am working on the list as time permits.

Here is a link to the gem mining locations:

http://sprucepineonline.com/member.php?rand=1&t=play&table=member&mode=search&subtyp e_type>equals&subtype=17

Anyway, this is not a solicitation. Just thought you might in interested in a central place that lists out many of the Blue Ridge gem mines.

Thanks,
Bill Ott

Help!

Gem Club Board

Input needed! Your board of directors would love to hear from you, the members, what topics would you like to hear at our monthly meeting?

We never get feed-back from those who attend the monthly meetings, so we are usually trying to find topics rather blindly. It would be appreciated if we got some requests for specific topics.

What are you interested in learning more about? Many members in the club have a wide array of skill levels in a multitude of potential topic areas, but fail to step forward as no one requests any particular information.

We want the club to grow, and we want to provide information that is both timely and “desired”, but it’s hard to do if we never get feed-back from our audience.

The club Vice President” (or maybe it’s President of “Vice” ... not really certain which it is) is responsible for lining up programs and speakers, and the board is more than able to pitch-in once a topic is selected. So, drop MR. Vice President (that would be Murray Simon) (drsimon@mindspring.com) an E-mail or track him down at a meeting and put a “bug” in his ear about desired meeting topics ... who knows, it might even work. You’ll never find out till you try!

Charlotte Gem and Mineral Club

August Meeting Topic

August 20th, 2009

7:00 pm - Charlotte Nature Center

“LIVING ROCK”

To us, rock structures look solid and relatively stable, however, each has a dynamic, continuing history. While most geologic forces move so slowly that we don't notice, dramatic geologic events are reminders that change is taking place all around us. Events of the deep past can be revealed and studied by examining rocks on the surface and from deep within the earth by remote sensing. This film will show how the complex geology of the western United States has shaped such landmarks as Yellowstone and Yosemite Parks, the Mojave Desert and the Grand Canyon.

Your bon vivant program host and vice president, Murray Simon, will be on hand to answer any questions of a geologic nature, drawing on his vast experience in crashing into rocks during a canoe trip many years ago.

Something New!

Carolina Gem & Mineral Rock Swap

sponsored by: Western Piedmont Mineral & Gem Society

Where: **Taylorsville Lions Club Fairgrounds**
Taylorsville, NC

When: **October 16, 17 9am to 5pm October 18 12 noon - 5 pm**

Free Admission

This is an outside and inside Rock, Mineral, and Gem Show. Please note that 80% of items offered for sale must be Rock, Mineral and Gem related. Everyone is invited to participate, tables are being sold at the following rates:

Inside Tables - \$10.00 each Limit 8 tables

Outside Tables - \$5.00 each Limit 2 tables

Dealer Contact: (800) 589-419

WPMGS-Rocks@charter.net

Dealer Setup: will be on Thursday, October 15th, 10am - 5pm or if you have a small amount of material you can set up on Friday October 16th from 8am-9am

Clubs are welcome to share a few tables - Bring a banner or advertise your membership
You can rent for 1, 2, or all 3 days.

This is intended to be a multi-club event please provide any input to us, it's designed to allow members to sell or swap excess materials from their collections.

Contact Names: Walt Mulligan (828) 241-9240 Ken Arnold (828) 465-2769 Tom Winslow (800) 5899-4619

Directions: From Exit 131 on I40, follow HWY 16 North for 13 miles. Turn Right on Fairgrounds Road. From Taylorsville at HWY 64, follow HWY 16 South for 2.6 miles to Fairgrounds Road. Watch for sign on HWY 16.

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



figure 1.



figure 2.

Picking up this month we'll look at some things related to proper exposure, and those features I think are important for a camera that is being used for close-up photography. Three items immediately come to mind, the control of the f-stop (sometimes called the aperture, iris, or diaphragm), the best exposure mode to use for most close-up work, and finally how the camera actually calculates exposure.

Proper exposure is obtained by balancing three things in photography. The "intensity of the light" striking the sensor (or film), the "duration of time" it strikes the sensor, and the "sensitivity" of the sensor. For now we'll assume the sensitivity of the sensor (ISO value or ASA speed) is going to be a constant value. When this value is constant then the ratio of light intensity and duration control the exposure.

Light intensity is controlled by a "light valve" (a mechanical iris) which in effect is a variable size hole. When a lens allows all of the light to pass that it can, the lens is said to be operating at its native aperture or highest speed. The lens in figure 1 is shown "wide open" at its native aperture. When the iris is reduced, it allows less light to pass through the lens and effectively makes it slower. Figure 2 shows an iris partially closed.

Aperture is measured as a function of the diameter of a lens versus its focal length. Thus a 50 mm diameter lens with a 50 mm focal length would have an aperture value of f/1.0. If the iris is reduced to allow only one half as much light to pass, then the f-stop of the lens would be f/1.4. So where do the weird numbers come from? Turns out that the amount of light passing through the hole is really a function of the size (or area) of the hole. The area of a circular hole can be calculated by the formula $Area = \pi \times r^2$ (pi times the radius squared). Thus a hole that allows one half the light so pass will be related to the square root of area, $r = \sqrt{A/\pi}$ (since pi is a constant value we can forget it while doing comparisons.)

Thus the table of f-stops looks like figure 3 and is actually based on the area of the circle involved in the iris. It's too hard for us to remember the precise values so we round them off to the f-numbers. Controlling the f-number provides the close-up photographer with one very important tool. Not only is it one half of the exposure control, but the higher the f-number (the smaller the hole size) the greater the "depth of focus" of the image.

As an object gets closer to the lens, it has a shorter range of focus. This range of focus is often described as the "depth of field," or the total range of sharp focus in front and behind the primary object. In macro photog-

| Light Ratio | f-stop | square root hole area |
|-------------|--------|-----------------------|
| 1:1 | f/1.0 | 1.0 |
| 1:2 | f/1.4 | 1.4142 |
| 1:4 | f/2.0 | 2.0 |
| 1:8 | f/2.8 | 2.8284 |
| 1:16 | f/4 | 4.0 |
| 1:32 | f/5.6 | 5.6568 |
| 1:64 | f/8 | 8.0 |
| 1:128 | f/11 | 11.3137 |
| 1:256 | f/16 | 16 |
| 1:512 | f/22 | 22.6274 |
| | | |

figure 3.

raphy the depth of field can be measured in fractions of an inch in many cases. For this reason it is desirable to use a high f-number whenever close-up work is being done. The f-stop of the camera should be set to a minimal value of f/8 and f/11 through f/22 may be more desirable. Thus we have a new requirement for our digital camera. The camera should have independent f-stop control and should reach at least f/8 and higher values are better.

This usually means that the desired camera will also have what is called an “aperture” controlled exposure mode. This means that the photographer pre-selects the f-stop value and the camera will auto-calculate the proper exposure time. Because low f-stops often mean longer exposure times, it is necessary to use the tripod or other camera steadying techniques in lost cases. As described in the previous articles, tripods and remote shutter releases are priority items for the camera.

Let’s examine this “depth of field” phenomena. Look at the figures 4 - 7, the first image was captured with the f-stop set to f/5.6 and the screw at the 17” mark was the primary focus point. Notice that the number 18 is totally out of focus, but as the f-stop increases down the range of figures the area in front and behind the primary focus is sharper. Thus for close-up work the camera needs to be set to a fixed f-stop between f/8 and f/22 to get the most depth of field.

The camera should have an “aperture priority” mode so the photographer can set the desired f-stop and the camera will then select the needed shutter speed to make the correct exposure. This assumes that the ISO equivalent setting is the lowest the camera supports. Typically between 50 and 200. In the digital world, the ISO value is not the same for all cameras, but the lowest setting is always the best for each variety. When film was in use, a faster film speed (higher ISO or ASA value) always produced more grain in the image. Thus ASA 400 film could be used in low light situations, but the image often had a sandy texture. This was the cost of using faster film.

Today, the higher ISO speed means that the camera sensor is set to more sensitivity. This will result in an image with more “digital noise.” Digital noise shows up as lower contrast images, often with strange color spots randomly around the image. Sometimes the images show a color band along a very strong contrast area or edge. It is the equivalent of the old film grain. Most digital cameras are acceptable up to about ASA 400, but degradation begins at higher values. Some cameras are more forgiving and some are less so. As a general rule set the camera to the lowest ASA value in its range.

So are there any other features which can help with exposure in a digital camera? The answer is yes, a nice feature is “fine exposure control” sometimes referred to in the camera manual as Ev control.



figure 4.



figure 5 .



figure 6.



figure 7.

Cameras can be fooled fairly easily when doing close-up images. Their exposure mechanism is designed to give proper exposure for an “average photo.” So what is an average photos? In general camera exposure systems read the entire image and it will yield about 18% gray when all the pixels are averaged together. Once again this comes from the film days of photography and it assumes that the photo is an average snap-shot. That is, it contains some sky, some ground, a few points of interest and that it’s about mid-day. That’s why many of today’s cameras have multiple exposure methods that can be turned off or on, like sunset, night time, back lighting, snow, etc.

When we go most jewelry or close-up work the exposure is often fooled because we tend to use overly dark or over light backgrounds to make the jewelry stand-out. Thus if we place the jewelry on a true black background, the image has too much black and the camera will compensate to make the overall exposure about 18% gray. Thus the jewelry piece often comes out too light and the background looks gray and not black. See figure 8. The camera exposure system is fooled by the large area of black in the background. If the camera has Ev settings (exposure compensation) then they can be adjusted to make the background appear black and gem or jewelry comes out properly exposed. Figure 9 Ev setting of $Ev = -1.3$.

The same, but opposite, effect happens when the background is white figure 10. The exposure meter is fooled and tries to make the overall image darker, by compensating for the white background. Again the background turns gray and this time the jewelry or gemstone is too dark. Once again by adjusting the Ev setting the image can be corrected. (Figure 11.)

To summarize this month, the features set that makes a camera a good selection for close-up photography should also include ...

- Adjustable f-stops (f/8 or higher)
- Aperture priority exposure mode
- Ev control (exposure compensation control)
- Add to them the desired features from last month ...
- about 5 or more mega-pixels of resolution
- Macro focus mode (fill the frame)
- Self-timer or remote shutter release (steady exposure)
- Manual focus (this one can be worked around)
- and a steady tripod.

Next month we’ll look at the final feature that make a camera a good candidate for close-up photography; white balance control. We’ll then discuss the typical set up for the camera. Once the camera is set up and ready to shoot, most of what needs to be done is proper lighting. The camera set up and controls stay 95% the same for all close-up images, with the exception of a little Ev adjusting depending on the background. Once the camera is defined, we’ll spend nearly all the rest of the time discussing lighting to get the best look.



figure 8.



figure 9.



figure 10.



figure 11.

**Clarification of Charlotte Gem and Mineral Club
Field Trip Policy -
from the Charlotte Gem & Mineral club Board**

The Charlotte Gem and Mineral club ONLY sanctions, recommends or endorses field trips either run by our club or any field trip of any club that is a member of The Southeastern Federation of Mineralogical Society, (SFMS) would include joint trips of the Dixie Mineral Council.

We are aware that there are active field trips by other organizations such as MAGMA. It is the position of the Charlotte Gem and Mineral Club that it is totally up to any member to make their own informed decision about attending any field trip of MAGMA or any other group.

This is in no way a negative comment about MAGMA or any other non affiliated group which may have trips. Our position involves the availability of insurance which our club has for members who attend either a Charlotte Gem and Mineral Club or one sponsored by SFMS or the Dixie Mineral Club. As MAGMA is NOT affiliated with SFMS, this is our concern for our members.

We have been told that MAGMA has its own insurance policy in effect when property owners re-

quest it. As our club only knows about what we pay for, this is the reason that we suggest that it is the responsibility of any member who may want to attend any non club or SFMS sponsored trip to make their own informed decision.

WHAT OUR INSURANCE COVERS: FIRST OF ALL, IT IS NOT AN ACCIDENT POLICY. IT IS A THIRD PARTY POLICY WHICH COULD PROTECT A MEMBER IN THE EVENT THAT DAMAGE WAS DONE TO A PROPERTY OWNER'S PROPERTY WHILE THE MEMBER WAS ON THE PROPERTY DURING AN OFFICIALLY SPONSORED TRIP.

Have fun digging on any trip that you choose and most importantly, be safe, respect owners' property so that sites will not be closed and leave something for the next collector.



**GEM, MINERAL & JEWELRY
FESTIVAL**



AUGUST 12-13-14-15 10am - 5pm
1809 COMMONWEALTH AVE CHARLOTTE, NC 28205
(the old Camera World Building, corner of Pecan and Commonwealth)

Members of the Charlotte Gem and Mineral Club, along with several other Gemstone vendors, will be at the old Camera World building at the 1809 Commonwealth Ave. Wednesday, Aug 12 - thru Saturday Aug 15 for the **FIRST EVER - ROCK, GEM, MINERAL, JEWELRY & CRAFTS FESTIVAL!!!** They will be showing, and selling rocks, and minerals along with handcrafted jewelry... Members will demonstrate gem cutting... mineral and gemstone identification... jewelry making... There will be geode cutting with several size geodes available to purchase !!

FREE !!!

**Mini-Event This Week in
Charlotte**

Some members of the Charlotte Gem and Mineral club will be at the old Camera World building at the corner of Pecan and Commonwealth this Wed thru Saturday for the first ever rock, gem and mineral and jewelry crafts festival. They will be showing and selling rocks and minerals and some of their handcrafted jewelry... Members will demonstrate gem cutting... mineral and gemstone identification... jewelry making... There will be geode cutting with several size geodes available to purchase. *See flyer above.*

Summer Break continues for Jr. Rockhounds

August no meeting

September Meeting: topic will be Creating and Labeling your Own Collection

Annual Mineral Symposium
Meteorites!

Featuring:



Robert Ward, world-renowned meteorite hunter

Scott Harris, leading scientist in the study of meteorites, tektites & impact structures



Dave Chaeising, curator of the Falling Rocks meteorite collection

August 15, 2009

9am:
Doors open for registration & refreshments

10am – noon:
Symposium

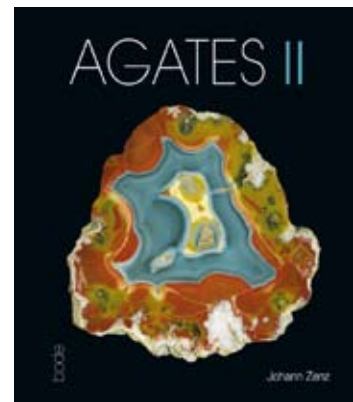
Noon:
Live auction to benefit the Tellus Collections

Museum Members: \$8
General Public: \$20
** Includes refreshments & weekend Museum Pass, and all attendees will receive an authentic rock from space!*

Please pre-register by calling
Tellus @ 770.606.5700 x417!

Don't miss the Southeast Gem and Mineral Show sponsored by Martin Zinn Expositions at the Holiday Inn adjacent to Tellus: August 14 – 16, 2009

Sponsored by:

New Book

After the fantastic success of Agates I, which came out in 2005 and quickly sold out, there is now the all new AGATES II, another extremely impressive book authored by the Austrian collector Johann Zenz.

AGATES II introduces about 50 of the most and interesting agate collectors from around the world. They give the reader an exceptional insight not only into their private collections but also into their interesting lives with stunning details.

A highlight in this amazing book is the chapter on agate inclusions in collaboration with top US agate collector Pat McMahan, with over 300 impressive pages including brand new information about locations and findings. The McMahan collection of agates with inclusions is the biggest and best in the world!

Another entire chapter is dedicated to the jasper, co-authored by US jasper expert Hans Gamma. It is an unprecedented composition of jasper information about the definition, genesis, history and today's existing jasper varieties. English, 2009, 656 pages, about 2200 colorphotos of agates, maps and landscapes. Large format 28 x 24 cm, Hardcover.

Some Other Local Shows of Interest

September 11-13, 2009, Winston-Salem, NC - Forsyth Gem and Mineral Club. 38th Annual Gem and Mineral Show, Coliseum Annex Building, Dixie Classic Fairgrounds, Gate #9 from 27th Street. Hours: 11th & 12th, 10:00 A.M.–7:00 P.M.; 13th, 12:00 Noon–5:00 P.M. Contact: W.A. Marion, 1163 Bear Creek Church Rd., Mocksville, NC 27028 or MarionA1@yadtel.net.

October 16-18, 2009, Franklin, NC - Gem & Mineral Society of Franklin and the Franklin Chamber of Commerce. Annual Leaf Looker's Gemboree. Hours: 16th & 17th, 10:00 A.M.–6:00; 18th, 12:00 Noon–5:00 P.M. Call 1.800.336.7829 for further information.

Charlotte Gem and Mineral Club Members Teach at William Holland School

by ron gibbs

Several current members of our club have taught (and/or will be teaching classes) at the William Holland School this summer.

Sarah Boyce has taught Opals and Opal cutting many times this summer, Jack King has taught cabochon creation, Ron Gibbs has done classes in close-up photography and composite cabochon creation,

Kim St Jean has taught cold connections, and Dan Haga has taught silver I & II classes.

<http://www.kimstjean.com/>
<http://danhaga.hagaweb.com/>
<http://www.theimage.com>
<http://kathylmorris.com/Wildacres/opalcutting.html>