

GOLDRUSH LEDGER



CHARLOTTE GEM & MINERAL CLUB

FEBRUARY 2012

the Prez Sez ...

The club started the new year off with a bang and a blaze of glory. Our new venue at the Tyvola Senior Center is a big improvement over the Nature Museum in terms of available space and ambiance. The board is already looking forward to having the November auction and Xmas party there. A big factor in getting this great meeting room at a very reasonable rate is Linda having volunteered to conduct jewelry-making classes on a regular basis for Senior Center members. Our thanks to you my dear!

I am very excited about our speaker and subject for the February 16th meeting. Scott Forward is a geologist from Atlanta who has run his business of erosion and sedimentation control verification for over 30 years. If a large building or high-rise is about to be built, Scott's company evaluates the soil base it will rest on and certifies it (or not) as appropriate for the foundation and

subsequent structure. Linda and I met him last fall at the William Holland School where he teaches gem and mineral identification. His classes are unlike any gem or mineral classes we've seen before in that they focus on how to find good specimens in the field and then how to identify them.

He will talk about evaluating the topography of a potential dig site in terms of seeking out fissures, former water runs or vugs to expose the crystallization/mineralization that often occurs in these areas. His rock and gem identification is very non-technical and will allow you to reasonably categorize your finds without having to use refractometers or complex and expensive gem ID devices.

Watch for our email blasts over the next several weeks with details of the field trip to Diamond Hill Mine in early April to be guided by Scott. He promises us

a great learning experience and some marvelous additions to your gem and mineral collection! As a reminder, your dues for 2012 must be paid to attend this field trip.

At the February meeting we will initiate a new monthly pre-meeting Silent Auction format. Under the direction of Jack King, materials and specimens of interest to

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lapidarians will be displayed on a table at the rear of the meeting room at 6:45. Each piece will have a sign-up sheet below it identifying the item, listing a minimal/starting bid and the allowable bid raising increments.

If you are interested in one or more items, sign the sheet and designate your bid. Competitive bidding will take place from 6:45 until the meeting begins at 7:30. At the end of the business portion of the meeting the winners will be announced and at the end of the evening's presentation, successful bidders can pay for and retrieve their treasures.

We can only accept checks or cash. The money raised will be used to repay those CG&MC stalwarts who volunteer to bring in and set up, often at their own expense, the pre-meeting snacks. This represents a nice opportunity to acquire new materials for your workroom or collection shelves while helping to

support your club's activities.

The board is actively exploring potential venues for holding club-sponsored classes in cabbing, wire wrap, polymer clay and (possibly) silversmithing. It would be very helpful to gain some idea of the level of interest in having these classes available for club members. Please call me (704-543-6651) if you have any thoughts on this subject that you would like to share.

Let's have a strong turnout for the next meeting on February 16th. It represents a unique opportunity to both expand your knowledge of gem and mineral identification and learn how to maximize your potential for success on a field trip. I look forward to seeing you there.

Murray Simon
President Charlotte Gem & Mineral Club - CR chief (comedic relief)



***Photo of Imperial Jasper
Slab from Mexico -
ron gibbs collection.***

Charlotte Gem & Mineral Club Monthly Meeting

February 16, 2011 Thursday -- 6:45 pm --

Location: Tyvola Senior Center
2225 Tyvola Rd.
Charlotte, NC 28210
(704) 522-6222

***Field Identification of Specimens
and Location Information on the
Club's next Field Trip***

presentation by **Scott C. Forward**

Scott is president and CEO of Carlton Environmental, Inc. located north of Atlanta, GA. He teaches both gem and mineral identification classes at the William Holland School of Lapidary Arts in Young Harris Georgia.

Scott will be guiding our field trip in April to the Diamond Hill Mine in South Carolina.

Charlotte Jr. Rockhounds

Saturday, February 25th, 2012 10-11:00 a.m.

Topic: Geology Basics

**Matthews Community Center
100 McDowell St. East
Matthews, NC 28105
704-321-7275**

***Contact: Mary Fisher
for further information
at: mefisher@att.net***

Polymer Clay Jewelry Class by Linda Simon (Class for Charlotte Gem & Mineral Club this month!)

Our club jewelry classes for *paid up members* are beginning for 2012. Linda Simon will host a class at her home on Sat., February 18th from 10:00 a.m. to 2:30 p.m.

Bring your enthusiasm, any project ideas, supplies and tools to complete an alternate project if you wish and a sandwich.

At this class we will set a cabochon in polymer clay and make a complimentary bail and necklace if time permits. If you have a particular stone you would like to set, please bring it. If not, I will provide one.

There are so many ways to set our favorite stones with polymer clay. You'll be amazed at your results! If you are unsure and would just like to watch and listen, just tell me.

This is your club and sometimes it's fun to just exchange ideas and talk. Call me so I can plan our workspaces.

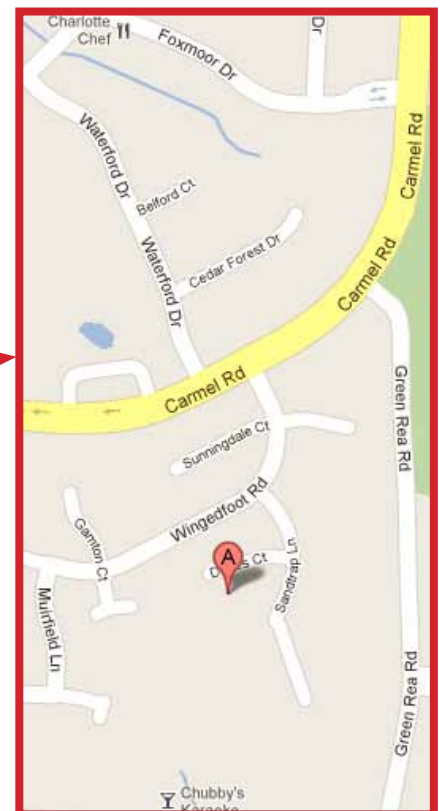
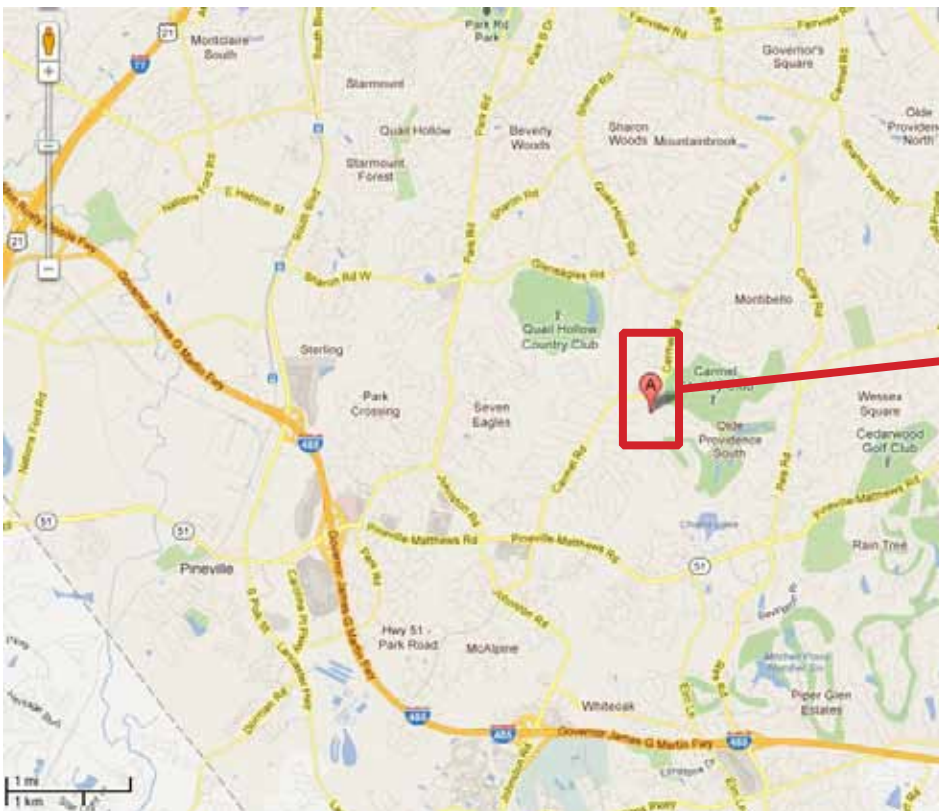
Class fee is \$15 and I will provide everything. My address is 5134 Dunes Ct. (off Carmel Rd. near Carmel Country Club and 10 minutes from the Southpark Mall). 704-543-6651

Information Requested!

You club wants to know what topics you, as members, would be interested in hearing about (future meeting topics), and what classes or demonstrations might be of interest to you relating to jewelry making or lapidary work.

Without your input we (the officers) are operating blindly trying to fit the interests of the membership. Give us some feedback and let us know where you are interested in expanding your knowledge base.

Thank you.



Diamond Hill Mine - many varieties of quartz Antreville, SC. (April field trip)

Our club is planning a field trip to the Diamond Hill mine near Antreville, SC. This location has produced museum quality specimens for many years. It is mainly a site for collecting variations in quartz crystals, but there are several very interesting materials that can be uncovered.

First there are milky white quartz crystal clusters that are not transparent and tend to be hexagonal crystals of "milk". Another variation of these crystals includes what it called "skeletal quartz". These crystals display an etched surface and are often coated with yellow-orange iron oxide and/or black manganese oxide coatings. They are very handsome and display extremely well.

Next we have smoky quartz crystals which tend toward a dark gray color, but there are occasional pieces with a brown yellow shade. Smoky quartz is caused by a radioactive decay process within the crystal and they usually contain traces of iron.

Where there's iron in quartz there always the chance of amethyst. The big prize for this location is some of the finest amethyst in the United States. In 2008 a 118 lb

amethyst cluster was removed from the mine, and after cleaning, it turned out to be of gem quality. It was eventually procured by the South Carolina State Museum in Columbia.

If you would like to see good color photos of the various types of quartz that can be obtained at this mine, go to the following WEB sites...

Museum Quality find:

http://onlineathens.com/stories/071509/oco_463691250.shtml

Photos in Museum:

http://onlineathens.com/stories/071509/oco_463691285.shtml

Skeletal Quartz from mine:

<http://www.gamineral.org/DHSkeletalPage.html>

Milky quartz:

<http://www.gamineral.org/DHMilkyPage.html>

Amethyst quartz:

<http://www.gamineral.org/DHAmethystPage.html>

Try this WEB address for

general information and photos of the mine site itself.

<http://www.gamineral.org/commercial-diamondhill.htm>

Finally here is the WEB address of the mine itself ...

<http://www.dhmine.com/>

Links on this site will lead to **youtube** videos of crystals being dug directly from the ground.

All in all this site has been a consistent producer for many years and it's likely that those who attend the dig will come home with a nice collection of pieces.

Remember you must *pay you club dues before you can attend this dig*, and this is a fee area. The price will likely be between \$20-\$30 each for adults and somewhat less for children.



skeletal quartz with iron and manganese oxides

Precious Metal Clay - What is it? *(abstracted from Wikipedia)*

Metal clay is a crafting medium consisting of very small particles of metal such as silver, gold, or copper mixed with an organic binder and water for use in making jewelry, beads and small sculptures.

Originating in Japan in 1990, metal clay can be shaped just like any soft clay, by hand or using molds. After drying, the clay can be fired in a variety of ways such as in a kiln, with a handheld gas torch, or on a gas stove.

The binder burns away, leaving the pure sintered metal. Shrinkage of between 8% and 30% occurs (depending on the product used). Alloys such as bronze, sterling silver, and steel also are available.

Silver Clay -

Silver metal clay results in objects containing 99.9% pure silver, which is suitable for enameling. Although gold metal clay is more expensive, it provides richer color. Lump metal clay is sold in sealed packets to keep it moist and workable.

The silver versions are also available as a softer paste in a pre-filled syringe which can be used to produce

extruded forms, in small jars of slip and as paper-like sheets, from which most of the moisture has been removed. Common brands of silver metal clay include Precious Metal Clay (PMC) and Art Clay Silver (ACS).

Precious Metal Clay (PMC)

PMC was developed in the early 1990s in Japan by metallurgist Masaki Morikawa. As a solid-phase sintered product of a precious metal powder used to form a precious metal article, the material consists of microscopic particles of pure silver or fine gold powder and a water-soluble, non-toxic, organic binder that burns off during firing. Success was first achieved with gold and later duplicated with silver.

The PMC brand includes the following products:
The original formula of *PMC*, now called "standard": fired at 900 °C (1,650 °F) for 2 hours, shrinks by 30% during firing.

PMC+: fired at 900 °C (1,650 °F) for 10 minutes or 800 °C (1,470 °F) for 30 minutes; shrinks 15%, due to a particle size reduction. *PMC+* is also available in sheet form which can be

worked like paper; for example, for origami.

PMC3: fired at 599 °C (1,110 °F) for 45 minutes or 699 °C (1,290 °F) for 10 minutes; shrinks by 10%. It can also be fired using a butane torch by heating it to orange heat for at least 2 minutes. It has a longer working life than the older formulations. It is also available in slip and paste forms which can be painted onto the surface of an object to be used as a mould.

Aura 22: a 22 k gilding material, a gold paste intended to be painted onto the surface of silver PMC pieces, or ready-made silver objects.

PMC Pro: a harder product which is only 0.900 silver, hence it cannot be hall-marked as sterling silver. It also requires kiln firing in a tub of activated carbon for 1 hours at 760 °C (1,400 °F).

Art Clay Silver (ACS)

ACS was developed by AIDA Chemical Industries, also a Japanese company. ACS followed PMC Standard with their Art Clay Original clay (more like PMC+ than PMC Standard), which allows the user to fire with a handheld torch or on a gas hob.

Owing to subtle differences in the binder and suggested firing times, this clay shrinks less than the PMC

versions, approximately 8–10%.

Further developments introduced the *Art Clay Slow Dry*, a clay with a longer working time. Art Clay 650 and Art Clay 650 Slow Dry soon followed; both clays can be fired at 650 °C (1,202 °F), allowing the user to combine the clay with glass and sterling silver, which are affected negatively by the higher temperatures needed to fire the first generation clays.

AIDA also manufactures *Oil Paste*, a product used only on fired metal clay or milled fine silver, and *Overlay Paste*, which is designed for drawing designs on glass and porcelain.

In 2006 AIDA introduced the *Art Clay Gold Paste*, a more economical way to work with gold. The paste is painted onto the fired silver clay, then refired in a kiln, or with a torch or gas stove. When fired, it bonds with the silver, giving a 22ct gold accent.

The same year also saw *Art Clay Slow Tarnish* introduced, a clay that tarnishes less rapidly than the other metal clays.

Other types of Clay

Lump metal clay in bronze was introduced in 2008 by Metal Adventures Inc. and in 2009 by Prometheus.

Lump metal clays in copper were introduced in 2009 by Metal Adventures Inc. and Aida.

Because of the lower cost, the bronze and copper metal clays are used by artists more often than the gold and silver metal clays in the American market place. Due to Hallmarking requirements laid out in the UK Bronze and Copper are not regarded as highly.

Due to the complex firing process and the fact that during the firing process acidic vapor is emitted and can result in extreme wear and tear on your kiln eventually leading to the requirements of a replacement kiln, it is often regarded as not as economically logical to use these cheaper metals.

The actual creation time of a PMC Bronze or Copper piece is also far greater than that of its PMC3 counterpart.

Base metal clays, such as bronze, copper, and steel metal clays are best fired in the absence of oxygen to eliminate the oxidation of copper by atmospheric oxygen. A simple means to accomplish this (place the pieces in activated carbon inside a container) was developed by Bill Struve.

Conceptually the clay is purchased in small, air tight packets to keep it from drying out. It can be worked in much the same way as normal clay.

It can be flatted by rolling into sheets, or rolled in lump form to produce thin cylinders. It is easily cut by a blade or “cookie cutter” to produce shapes and form controlled edges.

It can be stamped by rubber stamps (without ink), fabric stamps, or any other coarse material to take on patterns. Combinations of shapes can be “glued” using a clay-like mud made up of diluted clay in water.

Once an object is created, it is first air dried to make it non-pliable. When the water is removed, it can then be worked with files and sandpaper to further refine edges or finish surfaces.

The air dried piece is then kiln fired to burn out the binder and when removed from the kiln the final product is basically 100% metal.

The resultant material is white in color (silver clay) and must be surface finished to bring back the metal look.

In some cases, when the objects are not too large, the clay can be torch fired without the need for a kiln.

Polymer Clay

(abstracted from Wikipedia)

Polymer clay is a sculptable material based on the polymer polyvinyl chloride (PVC). It usually contains no clay minerals, and is only called "clay" because its texture and working properties resemble those of mineral clay. It is sold in craft, hobby, and art stores, and is used by artists, hobbyists, and children.

Polymer clays all contain a basis of PVC and one or more of several kinds of liquid plasticizer. Pigments may be added to the translucent base to create a variety of colors, along with small amounts of kaolin or white china clay or other opaquing agents where opacity is desired. Mica may be added to simulate pearlescent and metallic effects.

Polymer art jewelry is now part of the permanent collections of the Museum of Art and Design in New York, the Museum of Fine Arts in Boston, the Philadelphia Museum of Art, the Racine Art Museum, and others.

Original formulations of polymer clay remain soft until cured at relatively low temperatures, but air-dry polymer clays have recently been added to the market. Traditional polymer clay hardens by curing at temperatures created in a typical home oven, generally at

265 to 275 °F (129 to 135 °C), for 15 minutes per 1/4" (6 mm) of thickness.

The clay shrinks inconsequentially when baked (about 1-2%), but does not change texture. When properly conditioned and cured, most clays create items that will not break if dropped or normally stressed.

Cured pieces may have additional layers or enhancements added and be re-cured with no ill effect. As long as the maximum curing temperature is not exceeded, there is no limit to the number of times a piece can be re-cured. After it has cured, the clay surface can be left as is, sanded and buffed, or finished with a water-based varnish.

Polymer clay is available in many colors. "Special-effect" colors such as translucent, fluorescent, phosphorescent, mica-containing "pearls" and "metallics," and variegated "stone" colors containing contrasting fibers are also available.

Standard colors, which vary from brand to brand, can be mixed to create a virtually infinite range of custom colors, gradient blends, and other effects. Judith Skinner is credited with inventing a technique that uses a pasta machine to create consistent gradi-

ent-blended sheets of color.

This technique has many applications and is one of the basic skills developed by hobbyists or artists in the medium.

Few tools are essential for use with polymer clay, and these can often be found around the house. The most widely used cutting tools are tissue blades, which are extremely thin and sharp, though craft knives and other blades can be used.

A pasta machine is often used to create sheets of uniform thickness, to mix colors, to condition the clay, and to create patterned sheets. A "clay gun" or extruder with interchangeable die plates allows creation of lengths of clay in a variety of uniform sizes and shapes. Most molding and modeling tools used by traditional sculptors are suitable for polymer clay.



Here is the set of instructions for this pendant:
<http://www.hgtv.com/crafting/floral-polymer-clay-pendant/index.html>