

GEM SCOOPS



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Pendleton District Gem and Mineral Society

May 2013

Jewelry Fabrication in Silver

President's Message

On May 21, we cordially invite you to attend a soldering workshop hosted by Fred Sias and Ted Wallenius. The event will take place at 7 PM on May 21st at the Hayden Conference Center. A description of the event is included in the May Meeting announcement in the box to the right. The resulting piece will be given to some lucky lady.

I remind everyone that Patrick McMillan will be speaking to our club on June 19th about the role of geology in natural history. This is intended as our paramount event of the year and I hope that everyone will attend. Unfortunately, I will be in Alaska at the time (possibly even Glacier Bay). We still need volunteers for the event!

And while on volunteers, we are still seeking volunteers to bring refreshments to the meetings. May's club event is also yet to be determined.

Suggestions?

The April 26-28 Graves Mountain dig went as planned under cloudy skies and a slight intermittent drizzle.

JUNE MEETING

Patrick McMillan of Educational TV nature show fame, will be speaking to our club on June 19th about the role of geology in natural history.

MAY MEETING

WHEN: May 21, 2013, 7:00 p.m.

WHERE: Hayden Conference Center in the Clemson Gardens on the Clemson Campus.

TOPIC: Torch Soldering of Fabricated Sterling Jewelry

SPEAKER: Fred Sias and Ted Wallenius

Torch Soldering is a basic fabrication technique that may be used for making sterling silver or gold jewelry. Fred Sias and Ted Wallenius will demonstrate how to fabricate a simple cabochon ring from sheet and wire sterling silver. This technique may also be used to attach bales and gemstone mounts to the freeform salt and straw castings that were demonstrated previously. Refreshments will be served and visitors are always welcome.

Oliver and Steve Huffman, of the Augusta Gem and Mineral Society, pulled the specimen of the day: a large rutile crystal (see photo). Congratulations to them!

Our Diamond Hill dig on May 6 was postponed due to the recent monsoons and will be rescheduled. Details are forthcoming.

Robert

Jewelry Fabrication

By Fred Sias

Metal jewelry can be made by several methods including wire-wrap, stamping, casting, and **fabrication**. Wirewrap and stamping involve the creation of jewelry without melting or heating the metal. Casting, on the other hand, involves melting metal and fabrication usually requires the use of solder to

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Pendleton District Gem and Mineral Society

Minutes of General Meeting

April 16, 2013

Location: Hayden Conference Center, SC Botanical Gardens, Clemson University

Attendance: 13 Members

Ted Wallenius set up in the lower floor of the conference center and demonstrated his technique for making "salt castings" using a lost-wax casting centrifuge to force metal into a can of salt crystals. He also demonstrated a "straw casting."

2013 Officers

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Jewelry Fabrication (Cont.)

combine metal parts. Silversmithing implies the use of silver solder to assemble metal components also made of silver. The silver components are usually made of a silver alloy where the silver content usually exceeds 90 percent. Sterling silver contains 92.5 percent silver and is often marked 925, especially in Europe, and means that the alloy is 925 parts silver out of 1000. This is, of course, the same as 92.5 per cent. The remaining 75 parts of the sterling alloy is mostly copper but an alloy may contain other materials as well as long as they do not exceed 75 parts out of 1000.

Solder is usually composed of a different alloy than the metal parts being "soldered" together. In the case of precious metals such as gold and silver used for jewelry, one is required by law to use solder that is the same precious metal composition as the precious metal components that are being "soldered" together. If the solder is 925 in the case of sterling or 14K when used to assemble 14K components, the solder is called "Plumb" and is specifically alloyed to have the same percentage precious metal as the metal components being "soldered" together.

In addition to being of an alloy composition that is the same "fineness" (the same percentage precious metal), solder for jewelry making is marketed as "hard," "medium", and "soft." Rather than implying the physical properties of the silver, the terms hard, medium, and soft indicate the relative melting points of the solder. Hard solder has the highest melting point while soft has the lowest melting point. By using solder with several melting points, it is possible to solder successive nearby joints without damaging a solder joint made previously. For example, in the demonstration of fabricating a split-shank ring, one would use a

"harder" solder in attaching the bezel to the base followed by a "softer" solder when the base is attached to the shank lest the previous joint melt open.

The melting point of a precious metal solder is varied by changing the composition of the minor fraction of the alloy. In the case of Plumb silver solder, the solder alloy, must have 925 parts pure silver but the 75 parts can be any combination of metals that lowers the melting point below that of pure sterling. Such an alloy is called a Eutectic with properties that are determined experimentally to obtain the required melting temperature and perhaps other desirable properties.

Precious metal fabrication is somewhat an art with different requirements for soldering gold and silver. First, sterling silver and 14k gold solders, for example, have different melting points that can require different torch types for soldering. Silver is typically soldered with a gas-air torch while a gas-oxygen torch may be desirable for gold fabrication. The gas-oxygen torch has a much higher flame temperature. Some jewelers use a gas-oxygen for soldering both silver and gold jewelry, but this may require some experience and the beginner may be better advised to use a gas-air torch. Acetylene is the usual fuel gas when using a gas-air torch although propane and butane can be used under some circumstances.

Because silver and even gold tend to oxidize when heated sufficiently, a flux is used when soldering. The flux is applied to coat the joint area and prevents formation of an oxide coating that would otherwise prevent the solder from adhering to the metal surfaces being joined. There are several varieties of flux marketed for jewelry fabrication and the choice depends somewhat on the use and experience of the jeweler. It is also possible to buy applicators where the

solder and flux are combined in a paste that is applied in combination to the joint area. Such so called "paste solders" are easy to use and may be chosen by less experienced metalworkers.

The "art" or skill part of jewelry fabrication involves the proper location and flame application technique to obtain satisfactory results. For example, most of the heat should be applied to the larger or more massive of two components being soldered. Also solder tends to flow toward the heat and this can affect where solder is placed relative to the components being soldered together.

UPCOMING SHOWS IN THE SOUTHEAST REGION

June 1 - 2—Birmingham AL; Alabama Mineral & Lapidary Society 40th Tannehill Gem, Mineral, Fossil, & Jewelry Show located in the Tannehill Historical Ironworks Park, 12632 Confederate Pkwy. McCalla, AL. 35111. Sat. - Sun. 9 am to 5 pm. Admission to the show is free with paid admission to the park. Dealers offer mineral specimens, fossils, beads, slabs, geodes, jewelry, loose stones, jewelry repair and all things rocks. Door prizes, club demonstrations, and Kids Korner games near our club booth.

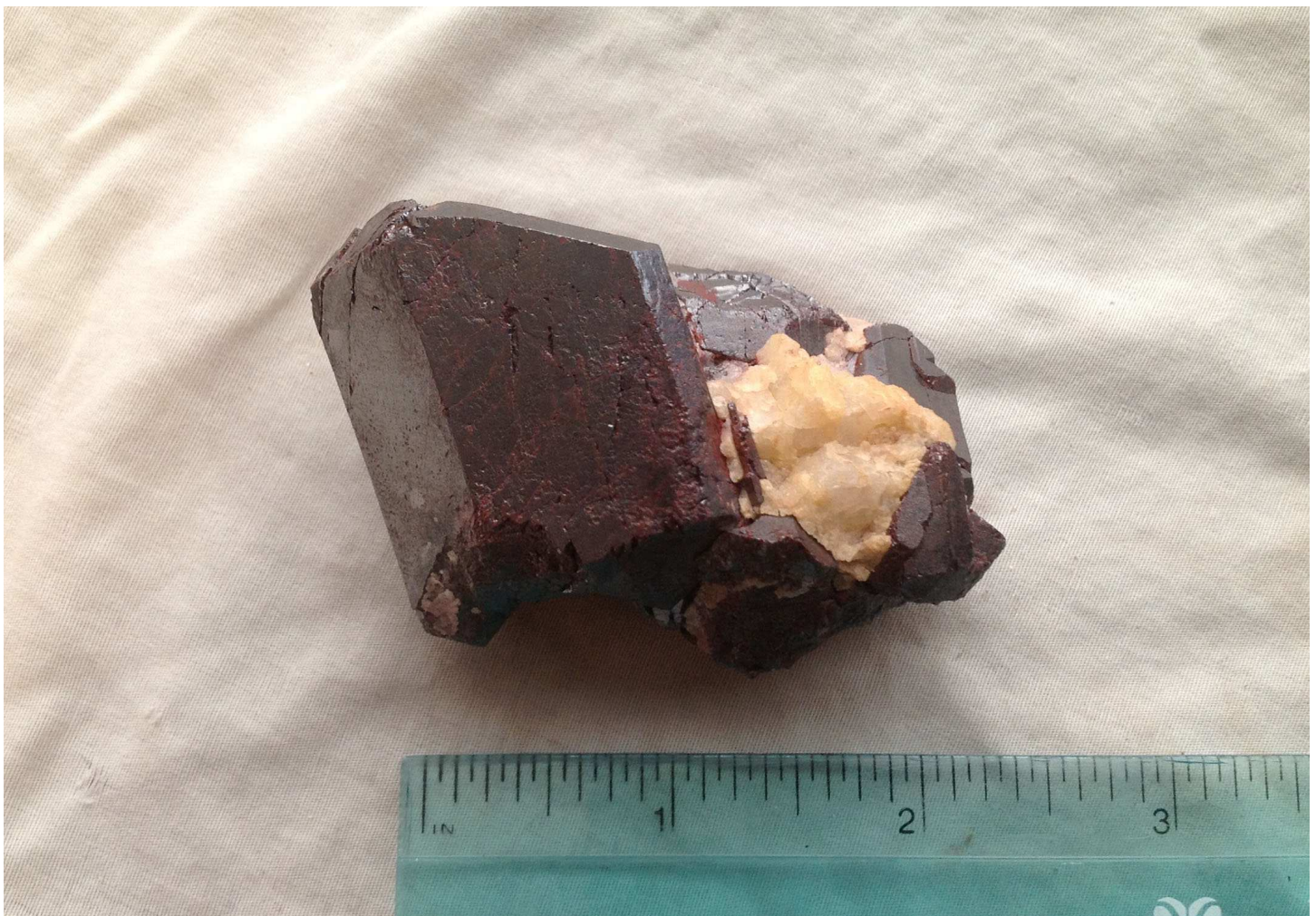
June 15, 2013—Greensboro, NC: Second Outdoor Event, Hagan Stone Park Shelter #6, 10 a.m. to 6 p.m. Free Admission, Free Parking. Food & drink booth, door prizes, fun for young and old, rock collectors and the curious. For directions please visit

www.haganstonepark.com

July 27 to August 5, 2013 — Spruce Pine, NC: 29th Annual Grassy Creek Gem and Mineral Show, located on HW 226 South.

Fabulous Rutile Crystal find on the April 27th Graves Mountain "Dig"

Never forget that you may
be the next person to get
lucky.



(Updated) 2013 SFMS WORKSHOP CLASS SCHEDULE**Wildacres Registrar**

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SESSION ONE—WILLIAM HOLLAND SUNDAY, June 9-15, 2013		SESSION THREE - WILDACRES MONDAY, September 23-29, 2013	
Seed Beading	Barbara Green	Intermediate Fused Glass	Barb and Herrick Jeffers
Cabochons	Anita Westlake	Cabochons	Steve Adams
Beginning Chainmaking	Case Leeser	Casting	Bill Harr
Polymer Clay	Carolyn Stearns	Exhibiting and Judging	Jay Bowman
Enameling/Cold Connection	Renee Kelley	*Intermediate Silversmithing	Dana Ruth
Faceting	Bill Roberts	Kumihimo	Haydee Hernandez
Lampwork beadmaking	Ann Royer	*Faceting Open Studio	Steve Hillenbrand
Mineral ID/Field trips	Scott Forward	Resin 101	Rochelle Nation
Opal cutting	Joe DePietro	Silver Cold Connection	Charlotte Caughman
Digital Photography	Ron Gibbs	*Intermediate Wirecraft	Rowan Rose
*Silver 1+ Special Techniques	Annette Gibney		
Wirecraft 1	Sandra Bergquist		

SESSION TWO - WILDACRES Monday, August 19-25, 2013		SESSION FOUR –WILLIAM HOLLAND SUNDAY, October 13-18, 2013	
Chain Maille, Beg. & Adv.	Roy Deere	Bead Netting	Ronald Midkiff
Beginning Fused Glass	Barb and Herrick Jeffers	Cabochon Advanced	Ellis Bray
Beginning Silversmithing	Dana Ruth	Casting	Joe DePietro/ Lou Mager
Beginning Wirecraft	Rowan Rose	Mixed Metals	Kim St Jean
Jewelry Bench Building	Danny Griffin	Fused Glass	Rich and Linda Dillon
Chasing and Repousse	Tom and Kay Benham	Lampwork beads	Cindy Reed
*Metalwork Special Projects	Jeff Shear	*Silver 1	Rebecca McNairy
Polymer Clay	Maggie Westall	Silver Filigree	Shannon Stafford
Raku Beads	Jim Cullen	Beginning Wirecraft	Rowan Rose
Seed Beading	Sharon Solly		
Scrimshaw	Bill Wetzel		

Note: The * indicates prerequisites