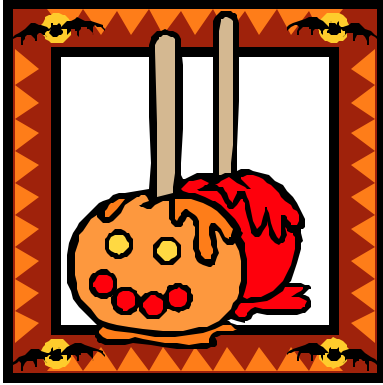


St. Croix Rockhounds  
Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082



## First Class

# October, 2006

Please send exchange bulletins to:

Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082

**October 17<sup>th</sup>** - Is this month's meeting date.

***The program: Stone Artifact  
Authentication***



St. Croix Rockhound's

# LEAVERITE NEWS

Vol. 31, Issue 8; October, 2006

Member of:



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# ST.CROIX ROCKHOUNDS

**MEETINGS:** Club meetings are held the third TUESDAY of each month, at Stonebridge Elementary School on W. Elm. St. in Stillwater, MN at 7:15 P.M.. Everyone is welcome.

**MEMBERSHIP:** Full membership for a single person over 16 is \$7.50 per year. Family membership is \$10.50 per year.

## OFFICERS:

President	Brad Bonse	(651) 439-6832
Vice President	Vic Martinsen	(715) 247-3700
Secretary	Doug Olson	(651) 430-9035
Treasurer	Lin Rawlings	(651) 735-4691
Program Committee	Mark Rasmussen	(651) 275-0607
	Bill Cordua	(715) 425-9544
	Victor Martinson	(715) 247-3700
Show Committee	Bill Cordua	(715) 425-9544
Refreshments	Freya Kask	(651) 777-6371
Librarian	June Young	(651) 429-3887
Historian	John Parsons	(651) 257-2724
Sunshine Committee	Marie Newlander MN	(651) 439-7809
Tour Director	Susan Dustin	(651) 430-3933
Liaison Officer	Freya Kask	(651) 777-6371
Newsletter Editor	Doug Olson	(651) 430-9035

The purpose of our organization is to bring together rock and mineral enthusiasts on a regular basis through membership and through pooling of individual knowledge, talents and skills, to improve the lapidary skills of participating members. Affiliation: American Federation of Mineralogical Societies and Midwest Federation of Mineralogical and Geological Societies.

## COMING UP!

**October 17<sup>th</sup>:** St. Croix Rockhounds club meeting will be at the Stonebridge Elementary School. The program will be *Stone Artifact Authentication* a presentation by Mark Rasmussen on his work.

## COMING ATTRACTIONS

**October 1-31<sup>st</sup>:** Sword and the Stone store closing sale. 120 East Main Street, New Prague, MN 952-758-6885

**October 14-15<sup>th</sup>:** Anoka County Gem & Mineral Club at the Har Mar Mall, Rosedale, MN.

**October 17<sup>th</sup>:** St. Croix Rockhounds club meeting will be at the Stonebridge Elementary School

**October 21-22<sup>nd</sup>:** Minnesota Mineral Club rock show at the National Guard Training and Community Center, 8180 Belden Blvd in Cottage Grove, MN. For info call Alan Olson 612-729-8331.

**November 4-5<sup>th</sup>:** Racine Geological Society Show at the Knights of Columbus Hall, 13249 Washington Ave, Sturtevant, WI. For info call John Lowman 262-554-5370

**November ??** - St. Croix Rockhounds club meeting will be at the Stonebridge Elementary School (??) Note: regular time and place have been pre-empted, stay tuned.

**November 18-19<sup>th</sup>:** Eastern Federation convention and show in West Palm Beach, FL. Hosted by the Gem and Mineral Society of Palm Beaches, Inc.

**December 9-10<sup>th</sup>:** Anoka County Gem & Mineral Club at the Faribo West Mall Show, Faribault, MN

**February 24-25<sup>th</sup>:** Anoka County Gem & Mineral Club at the Har Mar Mall, Rosedale, MN.

# Minutes of the St Croix Rockhounds

## September 19<sup>th</sup>, 2006

*If paying dues by mail,  
send to treasurer:  
**Lin Rawlings**  
850 Woodduck Rd  
Woodbury, MN 55125*

**Meeting was called to order** by Brad Bonse, president, at 7:15. There were 27 members present.

Guest from River Falls included Troy, Stephanie, Laura and Amy. Also Cassandra Olson visited from Oregon and Sandy Fuller, President of the MW Federation were present.

**Treasurer's report** was approved as given by treasurer Lin Rawling.

**Minutes** were approved as published in the Leaverite News.

**Tonight's program** will be Silent Auction.

**Refreshments** were provided by Wendy Flynn and Freya Kask. Ron and Tory Lewis have so far volunteered for October.

**Sunshine:** Marie Newlander is having cataract surgery today. Freya can send a card.

**Field trip:** A field trip has been planned for Jerry McDougal's farm. Jerry has a 60 year old rockpile to pick through. We will be meeting at his farm at 10 am October 14<sup>th</sup>. Maps were passed out at the meeting. If you have questions call Jerry at 651-336-1137.

**Newsletter:** Doug will send the newsletter by e-mail to anyone who so desires it. Notify him at [doug@implan.com](mailto:doug@implan.com).

**Show Chairman** – Bill Cordua has reserved the mail in Woodbury for March 31<sup>st</sup>, 2007. We will share the mail with the Easter bunny, but Bill will not be able to attend.

**Librarian** – June announced that the Washington County library in Forest Lake is interested in some of our materials. The Oakdale library only wants new books.

**New Business** –

**Sandy Fuller**, President of the Mid West Federation presented **Bill Cordua** with awards from the Mid West Federation for taking 2<sup>nd</sup> and from the AFMS for taking 7<sup>th</sup>, nationally. Bill won his awards in the Advanced Article Category for his article "The Minerals that Attack you Concrete Driveway."

**Sandy** also recognized **June Young** for serving as the Insurance Chair for the MW Federation.

**Bill Cordua** has also been serving as an assistant to the Mineralogy Committee.

**June Young** was designated by Brad Bonse to fill in the club ballots for MidWest Federation Committees.

**Jerry McDougal** wants to create a club directory with club member's interests and expertise. He has also created decals to sell for \$3 each.

**Meeting was adjourned** at 7:40.



If you have news -  
good or bad  
- please call Marie  
at (651) 439-7809.

## Congratulations to Bill Cordua!!!

for placing seventh in the Advanced Articles category in the AFMS Editor's Contest. Bill received the award for his article "The Minerals that Attack Your Concrete Driveway"!

## Celebrate! October's birthstone is opal

Tourmaline was added to the list in more current times.

### October birthdays:

LeRoy Betlach – 3<sup>rd</sup>  
Floyd Kimball – 10<sup>th</sup>  
Vi D'Angelo – 26<sup>th</sup>

### October Anniversaries:

John and Sandy  
Parsons – 11<sup>th</sup>

# Almost Everything You Need to Know About Taking Care of Opals by Ron Fulmer

There seems to be much confusion about the proper way to care for and clean opals. This is a simple guide that will let you preserve your beautiful opals and keep them looking their best.

To care for Opal correctly, two of the basic physical properties of this unique and beautiful gemstone must be understood.

Precious Opal contains around 6% -10% water (sometimes higher). Opal has a hardness of 5.5 - 6.5 on the "Mohs" scale of hardness. First and foremost you must determine if your opal is a natural occurring solid, doublet or triplet. The care instructions for each can differ significantly.

When purchasing opal, buy quality stones only from knowledgeable dealers or jewelers, preferably someone who is a cutter. The reason for purchasing from a cutter is, many jewelers don't understand opal, and therefore cannot offer you the right care advice for a particular opal. If you know precisely the type of opal you have purchased, you will know how to care for it.

What can I do if my stone loses its polish or becomes scratched? This is the main reason for recommending you buy from people who cut opal. For example, if you get an opal from a cutter and after prolonged periods of wear and tear your opal may need repolishing (in most cases it can be re-polished at a reasonable price). Or alternatively, if you have damaged the opal and it needs to be "reworked", then this is the person to do it for you, or at least give you the best advice.

Can I put Opals in water? Yes! Solid Precious Opal should be placed in a dish of clean room temperature water for at least 10 - 15 minutes, every 12 months or so. From personal experience (gained from over 27 years of cutting, collecting and handling opals) this allows the gemstone to absorb moisture it may require therefore preventing any crazing or cracking caused by drying out (especially if the opal has been subjected to harsh or dry conditions).

**Basic Care Practices:** Always remove rings when "Washing Up". Even solid opals can be adversely affected if subjected to sudden temperature changes (such as being placed in very hot water).

If the stone is an opal doublet or triplet, it is unwise to place it in water (particularly hot water with detergent, as in washing up) for any length of time as it may effect the cement that is used to bond the stone segments together (Doublet - 2, Triplet - 3).

Don't wear opal when gardening. Sand or soil is abrasive and will wear the polish off the stone over time. Also there is the chance, if you are doing any sort of work that could bring the stone in contact with hard surfaces, a flick of the wrist in the wrong direction could chip it.

How do oily substances affect an opal? It is recommended you do not place opal near oils or oily substances, however oily hand and face creams will usually not damage opal (except that they may "build up" around a ring and make it look unsightly).

How do I store opals for long periods of time? De-humidified atmospheres, (such as bank vaults and safety deposit boxes) are to be treated with caution when storing opals for long periods, as they can extract the water content from an opal over time, causing the opal to crack or craze. If Opal must be stored in these conditions, it is strongly advised to put them in a sealed plastic bag with a little water to prevent drying out.

Also it is advisable to check your opal every 6-12 months to ensure it has not "dried out". Otherwise, it is generally safe to store them away, as long as the area is not overheated.

**Displaying Opal:** Don't store opal for prolonged periods of time under hot lights, as this could crack the stones if the heat builds up and is magnified (as in a showcase).

If opal is to be displayed under these conditions it is strongly advised to place the pal in or near a source of moisture (ie; a bowl of clean water or wet sponge).

**Cleaning Opal:** Opal can be cleaned in soft detergent (washing up detergent) in lukewarm water using a cloth or soft brush. After cleaning, opal should be rinsed in clean room temperature water.

By following these few simple rules on basic opal care your opals will last forever as a source of enjoyment and natural beauty. *via The Tumble Rumble 7/01, via Rocky Review 8/01 via Rockhound Ramblings 08/01*

# Michelangelo's Minerals

Michelangelo's great works of art grace the world. Art, however, is often made of something geological. An obvious example is statuary made of marble or some other rock. A less obvious example is the array of minerals required to make paint and the plaster on which it is applied. A recent example of these relationships is a study in the *American Mineralogist* by two researchers, Paolo Ballirano and Adriana Maras of the University of Rome. The authors' are interested in the blue in Michelangelo's "The Last Judgment". The nature of the mineral pigment used is critical in the maintenance and restoration of such artwork. It is also a clue to the source of the minerals used in the pigment. This in turn tells when various deposits were being worked and the details of the trade carrying the mineral from mine to market.

Mineral pigments have a long and illustrious history. The iron oxide hematite and the iron hydroxide mixture called limonite were used in the ancient cave paintings at Lascaux. Egyptians used stibnite for black pigment, orpiment for yellow and malachite for green. White came from gypsum or from lead minerals such as cerussite. You can see why it isn't a good idea to use some of these paints on your body or eat them.

The famous fresco under study is in the Sistine Chapel in the Vatican and was completed by Michelangelo in 1541. Restoration was completed in 1994. The brilliant blue sky of heaven is one of the most striking features of the fresco, forming the background for the dramatic array of human souls rising to their judgment. The blue had dulled considerably, partly due to previous restoration attempts to clean off candle soot. Unfortunately the cleaning agent was likely wine, which reacted chemically with the pigment.

During the latest restoration, very small paint chip samples were collected. The blue in this case came from lapis lazuli. This elegant blue gemstone is a mixture dominated by the mineral lazurite. Other minerals commonly intermixed with this include the pyroxene diopside, sanidine, plagioclase feldspars and calcite. The pigment made from this is ultramarine. This was a pricey choice, but understandable given where the fresco was to be. Azurite is another blue pigment commonly used for skies, but it has the disagreeable habit of inverting to the more stable green malachite over time, changing the sky color.

One of the goals of this analysis was to trace the lapis lazuli to its mine source. The nature of the lapis lazuli in the paint was investigated by an array of tools - Raman spectroscopy, X-ray diffraction and transmission electron microscopy. These fortunately yield much data using the tiniest of samples. The data includes detailed major and trace element analyses and the structural state of the associated minerals, particularly the feldspars. The chemicals in feldspar can be arranged in several different ways depending on the rock's history. In addition, the presence or absence of chlorine and the proportion of the sulfur in different oxidation states in the lazurite were important clues. Ballirano and Maras compared the lapis in the pigment to that of a number of known deposits in Afghanistan, Tajikistan and Pakistan. By using the array of the associated minerals the authors tentatively conclude the deposits in Pakistan furnish the best match, despite an original suspicion that they came from the more famous Sare Sang deposits in what is now Afghanistan.

Whichever mine was the source, this rare stone came in trade down the Silk Road to the inner sanctum of the Vatican.

-Dr. Bill Cordua, U. Wisconsin- River Falls

## Reference:

Ballirano, P and A. Maras, 2006, "Mineralogical characterization of the blue pigment in Michelangelo's fresco 'The Last Judgment'", *American Mineralogist*, vol. 91, p. 997-1005.



**A good all-around glue:** for gluing bails, pin backs, bell caps, etc. is Elmer's Stix-All. It is non-toxic, non flammable, flexible and strong, as well as, impact resistant. While it sets up fast, complete curing takes 24 hours. Elmer's Stix-All can be purchased at most gem shops, hardware and variety stores. *from Strata Gem 7/04 via Rock Chips 9/06*

**To clean fluorite:** do not wash in hot or even warm water. The luster will vanish and be gone forever. It can be placed into muriatic acid to remove calcite, then washed in cold water. *from Golden Spike News 9/03 via Rock Chips 9/06*

## **What do you know? (Gold)**

Did you know that a one-ounce gold nugget is rarer to find than a five-carat diamond? Because of its rarity, a gold nugget can be worth three to four times the value of the gold it contains.

Did you know it's easier to find gold than it is to win a major state-run lottery?

Did you know a single ounce of gold can be drawn into a wire 60 miles long?

Did you know that gold can be hammered so thin that sunlight can shine through?

Did you know the United States government banned private ownership of gold for 41 years, then lifted the ban on December 31, 1974?

Did you know that if compressed all the gold in the world, it would be a 18-yard cube, which is about 1/10 the mass of the Washington Monument?

Did you know gold is used in the window glass of astronaut helmets? It reflects infrared rays while allowing sunlight to pass through and at the same time keep the interior of the helmet cool.

Did you know that a single cubic foot of gold weighs half a ton? *from Emerald Gems 9/06*

**A fossil collector** was proudly showing his friends his flagstone walkway. Imprinted on the flagstones were dinosaur footprints. As he was explaining the significance of fossil footprints, a woman in the group exclaimed: "I'm so amazed they would come so close to the house!" *from Quarry Quips 02/03 via Rockwood Rockhound 09/03*

**Clean-up:** For general cleanup, put a cake of soap in a nylon stocking and use in washing up the area in your shop. Nylon is abrasive and removes stubborn dirt. *from The Gemrock 5/03 via Rockwood Rockhound 09/03*

**Never use ammonia,** soap or detergents on genuine turquoise. In fact, a good test for the genuine is to apply a spot of ammonia to the back of a suspected piece. If it is genuine, it will turn white. *from Mountain Gem 6/02 via Rockwood Rockhound 09/03*

**Walking on Stardust:** The Earth sweeps up several hundred tons of mass a day in the form of micrometeoroids or meteoritic dust. Some of these miniscule particles contain stardust that is older than our sun. As such they are unique archives of the earliest history of the universe, and scientists are diligently collecting them in the Arctic, Antarctica, Australia, the Sahara Desert, Greenland, etc. A lot of the space dust we walk on comes from the moon—ejecta from all the potshots that the moon has received. A lot of it is from disintegrated meteorites. *from heaven knows where via Rockhound News 12/98*

**Nose News:** after decades of dinosaur reconstructions, scientists have come to the conclusion that the noses are in the wrong place. Typically, the nostrils of dinosaurs have been placed towards the back of the nasal opening in the skull and up, a practice which is thought to have started when it was believed that Sauropods (Bronotsaurus-like dinosaurs) lived in water and would have had the nostrils as far up on the head as possible so the animal wouldn't have to stick its head out of water that far to breath. After studying living creatures' nasal passages, the revised picture is that dinosaur nostrils were toward the front of the head, near the mouth. *from Tumbler, via Golden Spike News & The Pegmatite via Rockwood Rockhound News 05/03*