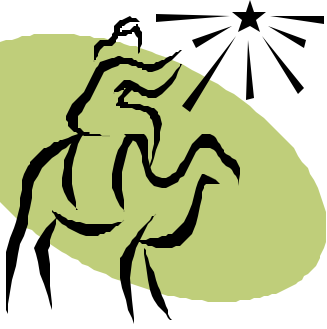


St. Croix Rockhounds
Doug Olson, Editor
211 Interlachen Way
Stillwater, MN 55082

First Class



December, 2001

Please send exchange bulletins to:

Doug Olson, Editor
211 Interlachen Way
Stillwater, MN 55082

December 5th - Is this month's party date. (no December meeting)

**X-Mas Party at Old Country Buffet
in Maplewood – starts at 6:30 pm**



St. Croix Rockhound's

LEAVERITE NEWS

Vol. 26, Issue 9; December, 2001

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	Dick Blom	(651) 735-2323
Vice President	Dave Klinkhammer	(651) 776-8046
Secretary	Elaine Martinsen	(715) 247-3700
Treasurer	Vic Martinsen	(715) 247-3700
Program Committee	Pete Rodewald	(715) 425-5561
	Bill Cordua	(715) 425-9544
	Victor Martinson	(715) 247-3700
Show Committee	Bill Cordua	(715) 425-9544
	LeRoy Betlach	(715) 425-5948
Refreshments	Freya Kask	(651) 777-6371
Librarian	Jeanne Blom	(651) 735-2323
Historian	John Parsons	(651) 257-2724
Sunshine Committee	Marie Newlander MN	(651) 439-7809
	Esther Rodewald WI	(715) 425-5561
Tour Directors	Vi D'Angelo	(651) 665-9067
	Karen Barenz	(651) 776 8525
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!

December 5th - The Saint Croix Rockhounds December meeting will be the annual X-mas party to be held at the Old Country Buffet in Maplewood - across White Bear Ave from the Maplewood Mall. Starting time is 6:30 pm.

COMING ATTRACTIONS

December 5th: St. Croix Rockhounds X-mas party at the Old Country Buffet in Maplewood.

January 15th: St. Croix Rockhounds meeting

June 8-10th: RMFMS Show in Roswell, NM

June 11-17th: SCFMS/AFMS Show in Arlington, TX

July 14-15th: Agate Days in Moose Lake, MN

Aug 30-Sept 1st: NWFMS Show in Enumclaw, WA



Minutes of the Saint Croix RockHounds

December's meeting will not be an official meeting so the November minutes will appear in the January newsletter.

No Official December Meeting Party at the Old Country Buffet In Maplewood Starts at 6:30 pm – 12/5/01

2001-02 Club Meeting Dates

***December 5th (X-mas party)

January 15th

***February 12th

March 19th

April 16th

May 21st

***This date is NOT the third Tuesday of the month



Celebrate!!! December has two birthstones, turquoise and zircon.

Turquoise is considered by some to be a symbol of good fortune and success, believed to bring prosperity to its wearer. Its name is believed to originate from the French phrase "pierre turquoise" meaning "Turkish stone" because turquoise was brought to Europe by Venetian merchants who first acquired it in Turkish bazaars. It is also considered by some as a love charm. When received as a gift, the turquoise symbolizes a pledge of affection. In Russia, the turquoise is popularly used in wedding rings.

In the language of chemists and geologists, turquoise is known as "copper aluminum phosphate."

Turquoise is often found in weathered igneous rock that contains copper minerals, where it crystallizes in veins and nodules. The gemstone usually develops in rock near water tables, located in semiarid and arid environments. The chemicals in turquoise come from adjacent rock, leached out by rain and groundwater.

A sky blue shade in turquoise is due to the presence of copper, while iron gives it a greener tone. Ochre and brown-black veins in the stone occur during the formation of turquoise, caused by inclusions from nearby rock fragments or from oxide staining. The most valued variety of turquoise is an intense sky blue color, like the color of a robin's egg. Hard, relatively non-porous compact stones have the best appearance because the stone can be finely polished. Pale and chalky varieties however are sometimes impregnated with oil, paraffin, liquid plastic and glycerin to give it a good polish.

December birthdays:

Eloise Kimball - 1st

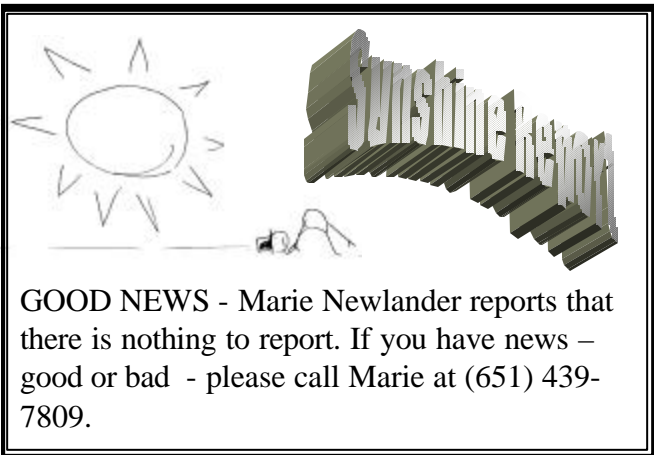
Robert Olson – 8th

Brad Bonse – 31st

Sandy Dustin - 31st

December Anniversaries:

Avis & David Klinkhammer – 28th



GOOD NEWS - Marie Newlander reports that there is nothing to report. If you have news – good or bad - please call Marie at (651) 439-7809.

Montana Agate

It has always been a mystery how the peculiar scenes got inside a rock as hard as an agate. It is the claim of geologists that the little spots were caused by infinitely minute seams of fissures in the softer parts of the rock being filled with metallic oxides make four different colors that form in the various combinations of colors when blended together, or appear in single colors in each rock.

The red color is oxide of iron, the black is oxide of manganese, the green is oxide of copper, and the blue is oxide of nickel. This theory has been elaborated by the use of high powered microscopes which show the tracings of little canals closed so that the naked eye could not detect it, but the oxides remained staining the rock in wonderful designs.

The fern-like and branch effects of the trees, grass, and shrubbery come from the fact that the canals branched out in various subdivisions, with smaller canals from a common center. In addition to these canals, the rock became flawed through a period of evaporation which, according to scientists, had taken more than 3 million years to reduce the stone to the hardness of 7 on the Mohs scale.

These canals and flaws have been healed by soft silicate formation of which the stone is a part. The evaporation has caused the oxides to take on such forms as seen on the window after a frosty night.

Technically, Montana agate is known as dendritic agate and the moss spots are called dendrites.

There can never be two pieces alike, even if they are cut from the same stone.

from Rockfinder via R.R. News 9/94 via Cedar Valley Gems 9/01 via Achatas 10/01

White Buffalo Turquoise

When discovered in the Dry Creek Mine in the Shoshone Indian Reservation near Battle Mountain, Nevada in 1993, they (the discoverers) were not sure what it was. Because of its hardness, it was decided to have it assayed. Their suspicions proved correct. It was, in fact, white turquoise. It was not until 1996, however, that it was finally made into jewelry.

The Shoshone Indians are not known for jewelry work and, as a consequence, the Shoshones sell or trade the white turquoise to the Navaho in Arizona who work it into jewelry. Because white turquoise is as rare as the white buffalo, the Indians call it "White Buffalo" turquoise.

Turquoise gets its color from the heavy metals in the ground where it forms. Blue turquoise forms where there is copper present (most Arizona turquoise). Green turquoise forms where iron is present (most Nevada turquoise). White turquoise, where there are no heavy metals present, turns out to be rare. To date no other vein of white turquoise has been discovered anywhere else. When this current vein runs out that will be the last of it.

from Rockhound Gazette 12/00 via Glacial Drifter 04/01 via Chips and Chatter 07/01 via Fractured Agate 10/01

AFMS website at [HTTP://WWW.AMFED.ORG](http://www.amfed.org) with links to other regional federation websites and to each other, as well as, some interesting rockhound sites put together by Mel Albright.

Determining the Source of Gem Emeralds

Emeralds are among the most prized of gemstones. Owners understandably want to know about the source of these valuable gems in specimens and jewelry. Suppose however that the emerald is set in a Gallo-Roman earring, or in a 13th Century French crown, or a sunken Spanish galleon? What clues could one find in order to deduce the gem's history and origin without destroying the priceless object? A newly applied scientific technique from a team of French researchers may hold part of the answer (Giuliani et. al., 2000).

This technique uses oxygen isotopes within the minerals. To give a little "chemistry-lite", most elements, including oxygen, come in several varieties, called isotopes. Isotopes differ from each other in having different numbers of neutrons in the nucleus. Some isotopes are unstable and break-down radioactively. Many are not radioactive, though, and are called stable isotopes. The various isotopes of oxygen are stable, and behavior mostly alike. You breath and use all of them in any one breathe. However the ones that are slightly heavier (another neutron or two in the nucleus) do behave slightly differently from those that are lighter. For example, water that evaporates from the sea has more of the light isotope in it than the heavier stuff left behind. This persists in rainwater. So a mineral formed from rain water will have a different mix of oxygen isotopes in it than one that forms from sea water. Or groundwater. Or volcanic water. Each source of water has a slightly different identifying ratio of these oxygen isotopes in them.

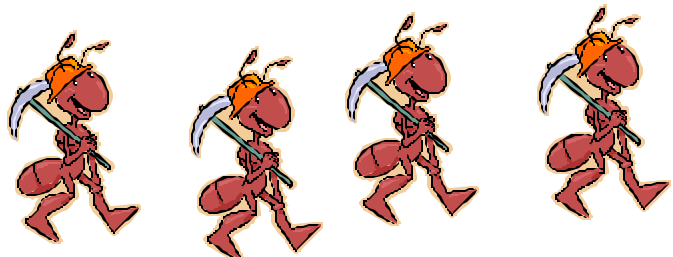
So how does this relate to emeralds? Emeralds from various districts (and even mines within districts) have different oxygen isotope ratios in them - different oxygen "fingerprints". The French geochemists measured these values for many emeralds from known localities, then compared them to emeralds whose origins were not known. Fortunately these tests require only a tiny amount of material, and are not destructive to the gem.

Their tests lead to several surprising results. The emeralds in a 17th century French crown originated from Habachtal emerald mines in Austria. An emerald in a Gallo-Roman ring best matches the emeralds from the Swat-Minguora district in Pakistan. This ring dates back to 500 BC. It was previously thought that emeralds at that time were known only from Egypt and Austria. The new findings show that trade was proceeding from Rome along the Silk Road long ago. An emerald from a Spanish Galleon sunk in 1621 was from the Muzo area in the western emerald district of Columbia., showing how rapidly the mines developed after their discovery. An emerald from a gem treasury in India was also from Columbia, showing a an influx of New World gems into Old World collections in the 17th and 18th centuries.

Similar techniques are being developed for rubies and sapphires. As more sources for gem and more artificial gems come on to the market, such analytical tools will be increasingly important as ways to evaluate and validate gems from a variety of sources.

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

Reference: Giuliani, G., et. al., 2000, "Oxygen Isotopes and Emerald Trade Routes Since Antiquity", Science, vol. 287, p. 631 - 633.



Using a slab saw? A piece of wood in the bottom of the saw tray will prevent fracturing a thin slab as it falls after cutting. Large block will break the fall of heavier sections. *from Smoke Signals 4/98 via the Ammonite 5/01 via Rock Chips 6/01*

Hint: Never Use a felt-tipped pen to mark good cutting material. The ink can penetrate the stone, and it is impossible to wash off. Use a china marker, since it is a wax pencil and the marks can be removed easily by using a cleaning fluid. *from Breccia 7/00 via Rock buster News 4/01 via Rock Chips 6/01*

Have you ever wondered what happened to the 56 men who signed the Declaration of Independence?

Five signers were captured by the British as traitors, and tortured before they died. Twelve had their homes ransacked and burned. Two lost their sons serving in the Revolutionary Army; another had two sons captured. Nine of the 56 fought and died from wounds or hardships of the Revolutionary War.

They signed and they pledged their lives, their fortunes and their sacred honor.

What kind of men were they? Twenty-four were lawyers and jurists. Eleven were merchants, nine were farmers and large plantation owners; men of means, well educated. But they signed the Declaration of Independence knowing full well that the penalty would be death if they were captured.

Carter Braxton of Virginia, a wealthy planter and trader, saw his ships swept from the seas by the British navy. He sold his home and properties to pay his debts, and died in rags.

Thomas McKean was so hounded by the British that he was forced to move his family almost constantly. He served in the Congress without pay, and his family was kept in hiding.

Vandals or soldiers looted the properties of Dillery, Hall, Clymer, Walton, Weinnett, Heyward, Rutledge, and Middleton.

At the battle of Yorktown, Thomas Nelson jr. noted that the British General Cornwallis had taken over the Nelson home for his headquarters. He quietly urged General George Washington to open fire. The home was destroyed and Nelson died bankrupt.

Francis Lewis had his home and properties destroyed. The enemy jailed his wife, and she died within a few months.

John Hart was driven from his wife's bedside as she was dying. Their 13 children fled for their lives. His fields and his gristmill were laid to waste. For more than a year he lived in forests and caves, returning home to find his wife dead and his children vanished. A few weeks later he died from exhaustion and a broken heart.

Norris and Livingston suffered similar fates. Such were the stories and sacrifices of the American Revolution.

These were no wild-eyed, rabble-rousing ruffians. They were soft-spoken men of means and education. They had security, but they pledged:

“For the support of the declaration, with firm reliance on the protection of the divine providence, we mutually pledge to each other, our lives, our fortunes, and our sacred honor.”

They gave you and me a free and independent America. The new revisionist history books never tell you much about what happened in the Revolutionary War. We didn't fight just the British. We were British subjects at that time and we fought our own government!

Remember: Freedom is never free! *from The Polished Slab 9/2000*