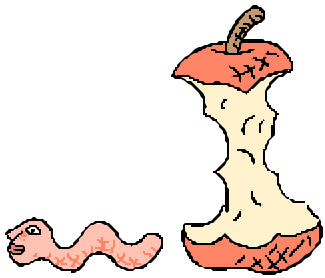


St. Croix Rockhounds  
Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082



September, 2004

**First Class**

Please send exchange bulletins to:

Doug Olson, Editor  
211 Interlachen Way  
Stillwater, MN 55082

**September 21<sup>st</sup>** - Is this month's meeting date.

***The program:***  
**SILENT AUCTION**



St. Croix Rockhound's

**LEAVERITE NEWS**

Vol. 29, Issue 7; September, 2004

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	Vic Martinsen	(715) 247-3700
Vice President	Mike Frankenberg	(651) 723-4467
Secretary	Susan Dustin	(651) 430-3933
Treasurer	Elaine Martinsen	(715) 247-3700
Program Committee	Peter Rodewald	(715) 425-5561
	Bill Cordua	(715) 425-9544
	Victor Martinson	(715) 247-3700
Show Committee	Bill Cordua	(715) 425-9544
Refreshments	Freya Kask	(651) 777-6371
Librarian	Shari Frankenberg	(651) 723-4467
Historian	John Parsons	(651) 257-2724
Sunshine Committee	Marie Newlander MN	(651) 439-7809
Tour Directors		( )
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!

**September 21<sup>st</sup>** : The St. Croix Rockhounds club meeting at the StoneBridge Elementary School at 7:15 pm. The program is "**SILENT AUCTION**". Bring in your extra rocks, supplies, equipment or perhaps some goodies. Tell your friends and neighbors, bring in some fresh blood (and wallets).

## COMING ATTRACTIONS.

**September 21<sup>st</sup>** : St. Croix Rockhounds meeting at Stonebridge Elementary School at 7:15 pm – SILENT AUCTION

**September 24-26<sup>th</sup>**: South Central Federation Show in Houston, TX

**September 25-26<sup>th</sup>**: Oshkosh WI Annual Show call Donna Nolte (920) 685-0541 for info

**October 2-3<sup>rd</sup>**: Anoka County G& M Club show at the Har Mar Mall.

**October 2-3<sup>rd</sup>**: Rock River Geol Soc Annual Show in Jefferson WI at Jefferson Co Fair Park Call Roy Lacey (920) 648-8554 for info.

**October 16-17<sup>th</sup>**: Minn Mineral Club Annual Show at the Cottage Grove National Guard Community Center. Call Alan Olson 612-729-8331 for info

**October 17<sup>th</sup>**: Bragelman Auction (machinery and mostly rough rock) Henry Auction Center, Foley, MN, viewing from 9am, auction at 11 am.

**October 19<sup>th</sup>**: St. Croix Rockhounds meeting at Stonebridge Elementary School at 7:15 pm

**December 11-12<sup>th</sup>**: Anoka Co Gem & Mineral club show at Faribo West Mall in Faribault, MN

# Minutes of the Saint Croix RockHounds May 18<sup>th</sup>, 2004

The meeting was called to order by President, Vic Martinsen at 7:20.

Twenty three members were present.

The **Treasurer's report** was approved as read by Elaine Martinsen.

**Minutes** from the April meeting were approved as published in the Leaverite News.

## Committee Reports:

**Library**- no report.

**Refreshments**-Thanks to Susan Dustin, Pete Rodewald, and Phyllis White.

**Show**-no report.

**Field Trip**- A date of June 11-13 has been set for a trip to the Keewenaw Peninsula in Michigan. About 9 members expressed interest in going.

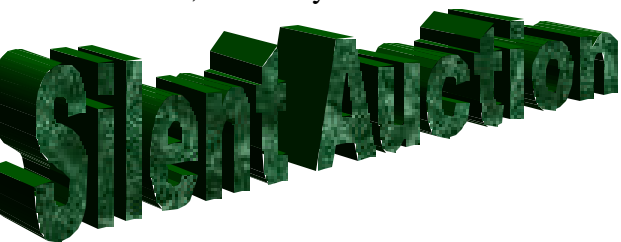
**Sunshine Committee:** no report

Our **next** meeting will be the annual summer picnic on 8/14 at Brad Bonse's home. More information will be mailed to members.

The meeting was adjourned at 7:45 pm.

**Respectfully submitted,**

Susan Dustin, Secretary



**St. Croix Rockhounds silent auction at the regular club meeting – September 21<sup>st</sup> - 7:15 pm at the Stonebridge Elementary School in Stillwater, Minnesota.**

**All are invited to attend!!**

**Bring in your extra rocks, supplies, equipment or perhaps some goodies. Tell your friends and neighbors, bring in some fresh blood (and wallets).**

## Celebrate!

### September's birthstone –Sapphire.

Sapphire is a variety of the mineral species corundum. Sapphires occur in all colors of the rainbow with the exception of red, which is ruby. The name corundum comes from the ancient Sanskrit "kuruvidam", while the name "Sapphire" comes from the Persian word "safir", meaning "beloved of Saturn", (or Greek sapphiros).

Sapphires are commonly heated to improve their color and reduce cloudiness that is caused by rutile inclusions. The rutile inclusions are responsible for the "star" or "cat's eye" in star sapphires.

The sapphire was said to represent the purity of the soul. Before and during the Middle Ages, it was worn by priests as protection from impure thoughts and temptations of the flesh. Medieval kings of Europe valued these stones for rings and brooches, believing that it protected them from harm and envy. Warriors presented their young wives with sapphire necklaces so they would remain faithful. It was believed that the stone's color would darken if worn by an adulterer or adulteress, or by an unworthy person.

Sapphires were once believed to be protection against snakes. It was said that if poisonous reptiles and spiders were placed in a jar containing the stone, the creatures would immediately die.

### September birthdays:

Helen Betlach – 3<sup>rd</sup>

Freya Kask – 11<sup>th</sup>

Pete Rodewald – 13<sup>th</sup>

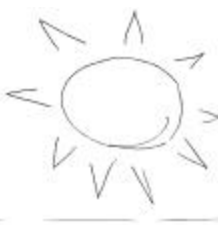
Elaine Martinsen – 15<sup>th</sup>

Victor Martinsen – 25<sup>th</sup>

### September Anniversaries:

Leroy & Helen Betlach – 12<sup>th</sup>

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





# What's the World's Most Common Mineral?

What's the most common mineral in the world? Most would answer "quartz", but as one might suspect, it's a bit of a trick question.

Quartz is indeed a common mineral, found in sandstone, gneiss, quartzite, and chert, to say nothing of hydrothermal vein quartz. Authors of basic geology texts frequently describe continental crust's composition as equivalent to quartz-rich granite. This includes granitic rock per se, weathered granitic rock, granitic rock redeposited as sediment, and metamorphosed granitic rock. Granitic rocks generally contain from 20-40% quartz, with a median value of perhaps 33% quartz. If we consider continents as blobs of granitic rock covering 40% of the earth and averaging 45 km. thick, we can calculate that the continents contain about 3.0 billion cubic kilometers of quartz.

However, 60% of the crust consists of ocean crust. This consists mostly of basalt and gabbro in which quartz is rare. The most common mineral (actually a series of compositionally related minerals) in these rocks is plagioclase feldspar. Plagioclase usually makes up about 60% by volume in these rocks. Oceanic crust averages 8 km. thick. Plagioclase also occurs in granitic rocks, where it forms 20-60% of the rock. Lower in the crust it probably makes up a larger volume, but let's go with plagioclase making up 40% of typical continental crust. If we calculate the volume of plagioclase in continental and oceanic crust combined we get about 5.1 billion cubic kilometers of plagioclase feldspar, nearly twice the quantity of quartz.

But the crust makes up only a small amount of the Earth. A lot of the Earth is an iron-rich core 3,470 km. thick. If it were all solid, we'd have 175 billion cubic kilometers of iron-nickel alloy. The outer core is liquid, so isn't a mineral (give the earth another few billion years to cool more). That still leaves us with an inner solid core 1100 km. thick. This gives us about 5.6 billion cubic kilometers of iron-nickel alloy. Is iron-nickel alloy then the most common mineral on earth? We are assuming it forms just a single mineral phase. We are also neglecting the earth's mantle, which makes up most of our planet's volume.

Quartz and iron-nickel alloy are rare in the mantle. Plagioclase also breaks down to other minerals such as garnet under the high pressures there. Even heat - hearty minerals such as olivine and pyroxene change. About 660 km. deep in the mantle is a major transition zone below which many familiar minerals change to new minerals having a "perovskite-type structure". Perovskite is a rare calcium, titanium oxide found in the crust in rocks such as syenite, carbonatite and marble. Its atomic structure is quite resistant to pressure. The minerals found deep in the mantle are not the same chemically as perovskite but they have the same atomic structure. They don't have their own names, as they haven't been actually found yet in natural rocks. Their presence in the mantle is strongly indicated on theoretical and experimental grounds. These perovskite-type minerals would dominate the earth between depths of 660 km and 2900 km. That makes up a volume of 600 billion cubic kilometers. Should any of them make up as little as 1% of the mantle, it still would be more common than quartz, plagioclase or iron-nickel alloy. So TA-DA - the most common mineral on Earth is an un-named mantle mineral with a structure similar to a rare crustal mineral and which no one has ever seen, much less collected.

These "back of the envelope" calculations point out that we are crust chauvinists in the way we look at our planet. In fact, we are actually continental crust chauvinists. Our perceptions of our world continue to change as we learn more about the parts that hidden from our view.

- Bill Cordua, University of Wisconsin - River Falls

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## References:

Chernikoff, S and Whitney, Donna, **Geology**, 3rd Edition, Houghton-Mifflin, New York.  
Lay, T. and Williams, Q., Nov., 1998, "Dynamics of the Earth's Interior", *Geotimes*, p. 26- 30

**Do not store your agates** in coffee cans unless you can guarantee that they will not get wet.

The stains that will occur when agates stand in rusty water will not come out. Even the strongest cleaners will not remove them. Only grinding through the stains until you reach a clean part of your stone will work and who wants to do THAT to a beautiful agate? The same goes for keeping agates in a fish aquarium. The green algae stains are just as bad as rust! Teresa says she can always tell when someone brings in an agate that has been kept in an aquarium. "It has that funny green color". *from Teresa Bartel from MWF Newsletter 9/04*

**Mentioned earlier** that Wayne uses ground up corn cobs and chromium oxide in a vibratumbler to clean his silver and turquoise jewelry. Wayne has also heard of a shop method using cut up toothbrush heads and soapy water to clean things in the tumbler. He hasn't tried this one yet... John Frey has tried the toothbrush head cleaning method. He says that he cut the bristles off rather than cutting up the plastic heads with bristles attached. It made a terrible mess. *from Wayne Davis and John Frey from MWF Newsletter 9/04*

**Missing Link:** a 580 million year old "dream fossil" was found in a southern China quarry. It is the oldest known example of a bilateral body form. It has symmetry, ie, a left/right, up/down and forward/back as opposed to being a blob. It is called *Vernanimalcula guizhouena* and is an oval shape no bigger than the width of 4 human hairs. *Reference: St Paul Pioneer Press, 6/5/2004.*

**Line the bottom** of the saw with a double thickness of gunny or burlap sacking. When it is time to clean again, pick the liner up by the corners and lay on the vise and carriage to drain overnight. This way you can dispose of all the "gunk" and "sludge" easily and the oil is clean for continued use. *from Smoke signals via Agate Explorer 7/04*

**Beautiful picture frames** can be made from hollow geodes. Just cut and polish a slab, mount a picture on the back side, and place in a stand. *from Quarry Quips 4/04 via Rock Chips via Smoke signals via Agate Explorer 7/04*

**Fluorescent rocks** have to be viewed in the dark. To make labels, mix quinine and water to use for ink. It glows a bright bluish white under black light. *from Quarry Quips 4/04 via Rock Chips via Smoke signals via Agate Explorer 7/04*

**A suggestion** to make the wet grinding procedure more comfortable. Place water pipe foam insulation over the edge of the water trough for an easy wrist rest while working the stone. Just cut to the length needed and slip it over the edge of the water pan. *from Quarry Quips 4/04 via Rock Chips via Smoke signals via Agate Explorer 7/04*

**Sheets of sandpaper** can be put in manila envelopes; one envelope per grit. The manila envelopes can be kept together in a magazine box, which is sold at most office supply stores. Magazine boxes are made in cardboard, plastic and wood, and if you get at least the plastic kind, you can easily mount them above your workbench so that they are always within reach but don't clutter up your bench. *from Rocky Tales via Rock Chips 4/04.*