

St. Croix Rockhounds
Community Education & Recreation
Independent School District #834
1875 Greeley Street
Stillwater, MN 55082



First Class

October, 1999

Please send exchange bulletins to:

Doug Olson, Editor
211 Interlachen Way
Stillwater, MN 55082

Meetings are held 7:15 PM at the Stonebridge Elementary School on W. Elm St., Stillwater, MN.

October 19th - is this month's meeting date.

The Program is:



St. Croix Rockhound's

LEAVERITE NEWS

Vol. 24, Issue 8; October, 1999

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	Freya Kask	(651) 777-6371
Vice President	Dick Blom	(651) 735-2323
Secretary	Karen Barenz	(651) 776-8525
Treasurer	John Parsons	(651) 257-2724
Program Chairperson	Pete Rodewald	(715) 425-5561
Show Chairperson	LeRoy Betlach	(715) 425-5948
Refreshments	Helen Betlach	(715) 425-5948
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 Director	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!

October 19th - St Croix Rockhounds meeting, 7:15 pm at the Stonebridge Elementary School. The scheduled program is "SILENT AUCTION" -bring lots of material for the club's fund raiser.

Coming Attractions

Oct 16th: St Croix Rockhound Show at the Saint Croix Mall

Oct 22-24: Wausau, WI Central WI Gem, Mineral, Fossil and Jewelry show. Cedar Creek Mall (bus 51 & Hwy 51

Oct 30-31: Oshkosh, WI 28th Annual show at Oshkosh Convention Center

Nov 27-28: Anoka Gem & Mineral Club Show at Apache Plaza Mall, 3800 Silver Lake Rd, Minneapolis

NOTE: the artwork of Rock Elves in this newsletter were done by Cassondra Olson

Minutes of the Saint Croix RockHounds Sept 21st, 1999

Minutes of the May 17th meeting were approved as printed in the September Leaverite News. MSP

Treasurer's report was not available.

Show chairman LeRoy Betlach told about plans for the October 16th show at the St. Croix Mall. He asked member to sign up for tables and for volunteers to set up the tables. Set up time is before 9 am. He also told of a show in Indiana where passers by were ignored.

LeRoy also announced that Phyllis White donated some cases of display rocks.

Librarian Jeanne Blom noted that library books are available and she has some on display. She also has some lists for available library materials for those who need it.

Newsletter editor Doug Olson asked for field trip reports and any other stories or articles for the Leaverite News.

Helen Betlach announced plans for Hospitality.

Refreshments for the October meeting will be provided by Phyllis White and Doug Olson.

The next **meeting** will be October 19th.

Pete Rodewald introduced the rules for the Silent Auction which followed the meeting.

Respectfully submitted by

Dick Blom for Karen Barenz,
Secretary

Top Ten Ways to tell if your Trilobite is Fake

10. It has a battery compartment
9. It melts in your mouth and not in your hands
8. The expiration date on the bottom says Permian Period
7. It comes attached to a shower rope.
6. It has "made in Morocco", on the back
5. It comes with a child-proof safety cap.
4. When you put it in water it grows green hair.
3. It's still twitching.
2. When you turn it upside down it's eyes close.
1. It's from the Bre-X mine in Indonesia!

from the Badger Diggin's via Ottawa Paleontological Society Newsletter 5/79 via the Fractured Agate 7/97

Mineral Changes due to Weathering

Feldspar changes to clay

Olivine and hornblende change to serpentine and chlorite rocks

Impure limestone may dissolve and leave clay

Pyrite changes to limonite and hematite

Copper-sulfide minerals change to malachite, azurite, cuprite, or metallic copper or may be dissolved entirely. Some copper minerals become partly limonite.

Silver minerals change to horn silver (cerargyrite) or dissolve.

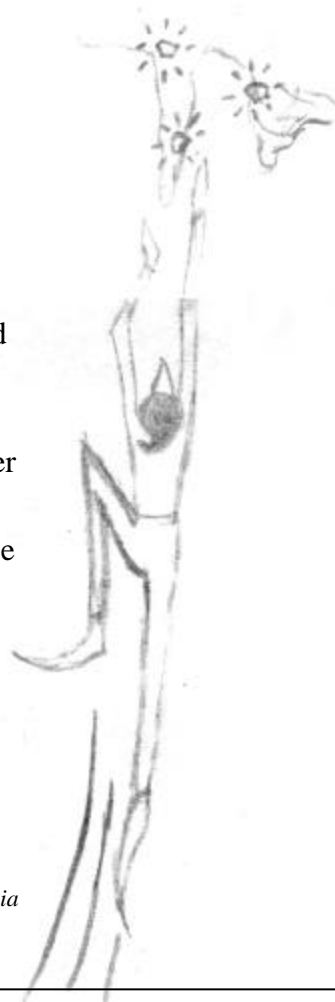
Rhodochrosite and rhodonite change to psilomelane or pyrolusite (manganese minerals).

Calcite dissolves.

Gold may dissolve if manganese is in the rock.

Quartz, fluorite, apatite, barite and tourmaline are not likely to change.

from Cycad via Geo-Logic via Pebble Pusher via Rock Rustler's News 3/93



Arsenic and Old Sandstone

We think of pollution as a human phenomenon, when in fact natural pollution from the break-down of minerals is also important, and can come from unexpected sources. The bedrock Wisconsin and Minnesota contains lots of sandstone beds. One of the purest is the St. Peter Sandstone, which consists almost entirely of well-rounded quartz grains. This is the rock that forms the white cliffs along the Mississippi River in St. Paul, the lower layer at Minnehaha Falls, and the steep road cuts around River Falls, Wisconsin.

Where this formation is below the surface, it forms an important aquifer. Water moves readily through the spaces between the sand grains. Think of how fast a spilled soda soaks into the sand on a beach and you'll get the idea.

Imagine the horror of people in east-central Wisconsin who have drilled wells into this rock and find themselves drinking water with hazardous quantities of arsenic! Measurements in Outagamie and Winnebago Counties find some wells with arsenic concentrations up to 2,000,000 micrograms per liter. (The U.S. E.P.A.'s recommended maximum is 50 micrograms per liter). A home owner's first reaction, after going to get bottled water will be to look around to sue whoever it was who has been

dumping arsenic. The problem is that the arsenic is coming from the sandstone itself.

If one looks at the St. Peter sandstone, one sees scattered rusty red zones. This is the result of the weathering of pyrite. By the time the sandstone is exposed at the surface, the pyrite has decomposed to hematite.

Below the surface, some zones of St. Peter sandstone is peppered with bright brassy pyrite. Pyrite is ideally made of iron and sulfur, but minerals in nature are rarely pure. Pyrite has a nasty habit of picking up arsenic and including it in its structure in the place of some of the sulfur. As the pyrite begins to break down, it releases the arsenic into the surrounding ground water. This was what was happening in eastern Wisconsin. The arsenic may have gotten into the rocks at the time of

formation of the lead and zinc ores in southwestern Wisconsin when metal-bearing fluids were moving through the area. Indeed, the pyrites found in some of the old mines is an arsenic-bearing variety known as bravoite.

A similar problem occurs in southeastern Michigan, this time with a different formation called the Marshall sandstone. In one county 30% of the well tested in this formation yielded arsenic contamination, at times reaching concentrations as high as 350 micro-grams per liter. Investigation

again showed that the Marshall Formation contained pyrite and that the pyrite had trace amounts of arsenic.

In the play, "Arsenic and Old Lace" part of the comedy comes from the idea of sweet old ladies poisoning their guests. Who would think danger could come from such an innocent-looking source? Our sandstones look like nice clean sand. Who would have thought that some of them release arsenic to our drinking water?

- *Bill Cordua , U.W. - River Falls*

References:

- Cannon, W., A. Kolker and D. Westjohn, 1998, "The Geological Source of Arsenic in Ground Water in Southeastern Michigan", Institute on Lake Superior Geology, 44th Session, Abstracts with Programs, p. 50 -51.
- Dutch, S., J. Moran and R. Stieglitz, 1998, Geologic Traverse of East-Central Wisconsin, in Guidebook to Field Trips in Wisconsin and Adjacent areas of Minnesota, ed. of M.G. Mudrey Jr., for 31st Annual Meeting of the North Central Section of the Geological Society of America, p. 3 - 11.

Minnesota Clubs - This is a list of Minnesota rockhound clubs who are members of MWF and AFMS federations:

Anoka County Gem & Mineral Club: Meets first Friday at 7:30 p.m. except May-August at Dave Olsen Studio, 1528 Marshall St. NE, Minneapolis. Contact Jack Rehnberg at (612) 425-2924 for membership information. 4-6 Retail Shows annually, newsletter: Hidden Treasures.

Austin Gem & Mineral Society: Meets fourth Tuesday at 7:30 p.m. at Salvation Army Community Center, 409 1st Ave NE, Austin. Club display at Wilder Days, newsletter: Achates.

Carlton Cty Gem & Mineral Club: Meets third Thursday at 7:30 p.m. alternating between Civic Centers in Moose Lake and Carlton. Contact Tom Olson at (218) 384-4961 for membership information. Sponsors annual Agate Days in Moose Lake, collecting in area pits, newsletter: Agate Picker.

Lake Superior Gem & Mineral Club: Meets second Tuesday except June through August at 7:00 p.m. at Westend Senior Center, 2014 W 3rd St, Duluth.

Minnesota Mineral Club: Meets second Saturday at 7:30 p.m. except June through September at 7:30 p.m. at Falcon Heights City Hall, 2077 W Larpenteur. Contact the club at P.O. Box 580706, Minneapolis, MN 55458 for membership information. Collecting May through September, educational show, newsletter: Rock Rustler News.

Minnesota Valley Gem & Mineral Club: Meets last Thursday except June through August and December at Carousel Ceramics & Dolls, 1618 3rd Ave, Mankato.

Minnova Rock & Gem Club: Meets at member's homes in the Elmore area. Contact Walter C. Ackerman, Rt. 2, Box 42, Lakefield, MN 56150 for more information.

New Ulm Gem & Mineral Club: Meets first Wednesday in April at a member's home and Saturday after Thanksgiving at Orchid Inn in Sleepy Eye, MN. Contact Allan Hacker, PO Box 37, Morgan, MN for more information.

Richfield Mineral Club: Meets third Tuesday except July and August at 7:30 p.m. at United Methodist Church of Peace, Bloomington. Newsletter: Rock Talk.

St Croix Rockhounds : Meets third Tuesday except June through August at 7:15 p.m. at Stonebridge Elementary School in Stillwater. Contact Vic Martinson, 1938 Co Rd 1, Somerset, WI 54025. Educational shows, newsletter: Leaverite news.

Steele County Gem & Mineral Club: Meets third Monday at 7:00 p.m. at Associated Church, Owatonna, MN. Contact Wayne Nelson at (507) 332-2793 for more information. Nearby field collecting.

3M Prospector's Club: Meets second Monday except July and August at 7:30 p.m. at 3M Building 42 in St. Paul. Contact Steve Kirckof at (651) 384-4961 for information. Newsletter: 3M Club Rockhound News.

Places of Interest for Minnesota Rockhounds

- Bell Museum of Natural History:** 17th & University Ave SE, University of Minnesota, Minneapolis, MN (612) 624-6247
- Hill Annex Mine State Park:** Calumet, MN (218) 247-7215
- Hill-Rust Mahoning Mine :** 3rd Avenue E. Hibbing, MN (218) 262-4900.
- Ironworld USA:** Chisholm, MN (800) 372-6437
- Jeffers Petroglyphs :** East of Jeffers, MN
- Minnesota Museum of Mining:** Chisholm, MN (218) 254-5543
- Pipestone National Monument:** Pipestone, MN (507) 825-5464
- Science Museum of Minnesota:** Downtown St. Paul, MN (651)221-9488
- Soudan Iron Mine:** Soudan, MN (218) 753-2245



Stolen Gems

Volcano Spits out \$250,000 in Gold a Year - A volcano in Colombia is spewing more than a pound of gold into the atmosphere each day - and depositing 45 pounds of it a year on the rocks lining its crater. At gold's current price, 45 pounds is worth \$252,000. The Andean peak Gale ras - which erupted in January 1993 - marks the first time scientists have found visible gold particles in an active volcano. But prospectors will have to wait until the mountain stops erupting before they can work a claim - active volcanoes are too hot and dangerous to be mined. *by Martha Hummer from the Fractured Agate via the Kettle Krier 4/95 via the Trilobite 6/95*

How Geologic Time Periods got those Crazy Names - The three geologic eras are the Paleozoic, Mesozoic and Cenozoic - from the Greek for ancient, middle and recent life. They are divided into 11 periods most of them named for the places where rocks from the period were first discovered.

The Cambrian period (570-500 million years ago) is named for Cambria, or Wales. The next two periods also received Welsh names: Ordovician and Silurian for two Welsh tribes, the Ordovicians and the Silurians. The Devonian is named for Devonshire, England, and the Cretaceous comes from "creta", Latin for chalk, referring to the White Cliffs of Dover, England.

The Jurassic is named for the Jura Mountains in Germany, and the Permian for Perm in Russia's Ural Mountains.

The Triassic got its names because it was easily divisible into three parts and the Carboniferous is named for carbon, because most coal deposits date from that period. (ed. Note, in North America, the Carboniferous is subdivided into the Mississippian, named for the Mississippi River and the Pennsylvanian, named for the coal deposits first discovered in Pennsylvania).

The most recent periods are the Tertiary and Quaternary named for types of rocks dated to those eras. They are divided into epochs, whose names all end in "cene", a Greek root meaning recent.

Pleistocene is from the Greek for most recent. Preceding it are the Pliocene, Miocene, Oligocene, Eocene, and the Paleocene, meaning more recent, less recent, little recent, early recent and oldest recent. Got it?

from Gem-N-I 12/92, via SIES Club News 4/96 via Pebble Pusher 2/99 via Achates 6/99

Forest Fire Silver *by Torn Schmitt* - Around the 5th Century B.C., lucky inhabitants of Europe and Asia Minor occasionally would discover lumps of silver. In these areas, silver was found, often, in galena, a lead ore. Under the right conditions, natural disasters, such as forest fires, would separate the materials in the ore, leaving the almost pure silver lying around on the ground. People eventually learned how the silver nuggets came into being. Forest fires were started on purpose. After the smoke cleared, they would go into what was left of the forest and gather the shiny nuggets *from the Roamin' Rams 1/96 via Rock Chips 6/97*

Hint - Cleaning limestone fossils with a little Sani-Flush in a pail of water. After the fizzing stops, drain and repeat as necessary. Rinse thoroughly when finished. As with any chemical, use with caution and protect eyes. *from Rockbenders Gazette 5/97 via Achates 7/97*

Hint - Wipe a piece of chalk over your jewelers files. It keeps metal slivers from clogging the file. You can blow the chalk out. *from Shop News and Notes 4/97 via Rock Chips 8/97*

Hint - One of the least know methods of finding mineral specimen is also one of the easiest and many times one of the most productive. It consists of inspecting and testing the materials which ants, gophers, prairie dogs, moles, etc. bring to the surface. Some ants tunnel down to 15 feet and spread over more than an acre. Excellent gemstones, especially red gemstones, have been found in anthills. *from Staurolite 6/97 via Rock Chips 8/97*