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

First Class

April, 2007

Please send exchange bulletins to:

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April 17th – *"Agate Quiz"*

St. Croix Rockhound's

LEAVERITE NEWS

Vol. 32, Issue 4; April, 2007

Member of: AFMS & MIDWEST FEDERATION

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	Pete Rodewald	(715) 425-5561
Vice President	Brad Bonse	(651) 439-6832
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 Martinsen	(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! -April 17th: St. Croix Rockhounds club meeting will be at Stonebridge Elementary School on W. Elm. St. in Stillwater, MN. Meeting time will be 7:15 pm. The program will be "Agate Quiz" test your knowledge against agates from Pete Rodewald's collection.

COMING ATTRACTIONS

April 14-15th: Anoka County Gem & Mineral Club at the Har Mar Mall, Rosedale, MN.

April 17th: St. Croix Rockhounds club meeting will be at the Stonebridge Elementary School

April 28th: St. Croix Rockhounds will have field trip to the Zumbrota River to search for cold water agate.

May 15th: St. Croix Rockhounds club meeting will be at the Stonebridge Elementary School

May 19-20th: WI Geological Society 50th Annual show at Hart Park in Wauwatosa, WI.

June 5-10th: AFMS/RMFS in Roswell, NM

July 7-8th: Anoka County Gem & Mineral Club at the Har Mar Mall, Rosedale, MN.

July 14-15th: Moose Lake Days in Moose Lake Minnesota.

June 15-17th: California Federation show in Lancaster, CA.

August 3-5th: Northwest Federation convention in Butte, MT

August 11-12th: MWF convention in Houghton, MI (during Copper Country week 7-12th)

September 18th: St. Croix Rockhounds annual Silent Auction at Stonebridge Elementary School in Stillwater, Minnesota.

October 6-7th: Eastern Federation convention in Newark, NY

October 13-14th: Anoka County Gem & Mineral Club at the Har Mar Mall, Rosedale, MN.

June 20-22, 2008: MWF convention in Lincoln, NE.

Minutes of the St Croix Rockhounds March 20th, 2007

The meeting was called to order by president, Pete Rodewald at 7:21 pm. 20 members and two guests were present. The guests were Bob Oetterich from Prescott, WI and Becky Kleager from River Falls.

Program: The program was presented early. It was "Achat Traume" featuring the world's finest agate collection put together at the 2005 Munich Germany show. The slide show was created by Doug Moore of the Heart of the Rock club.

Treasurer's Report-Lin Rawlings report was approved.

Minutes of the February meeting were approved.

Sunshine: Brad's wife is doing better – Florence sent a card..

Show Committee- Bill Cordua needs help for the annual Rock and Mineral Show at the Valley Creek Mall will be on March 31. He is looking for volunteers to help set up – Friday at 7 pm. He has flyers to be distributed and the show table needs to be manned/womanned.

Old Business: None

New Business: Brad passed out the certificates for last month's Find of the Year contest.

Pete Rodewald plans to go to the Wolverine #2 pit to collect copper agate before it gets crushed for gravel.

Field Trip – director Susan Dustin announced that we have lots of names signed up to go to the Zumbrota area, along the Zumbro River to hunt for cold water agate. It takes about 1.5 hours to get there. She will contact those on the list with details.

Programs: Bill Cordua says that the University of Wisconsin –River Falls may have some program videos. The AMFS also has programs. A suggestion was raised that 'someone' look for promotional videos from rock hound fee sites.

Refreshments- Tonight's treats were provided by Bill Cordua and Helen Betlach.

Respectfully Submitted,

Doug Carlson, Secretary

Celebrate!

Diamond, the birthstone of April, is the hardest and most brilliant of gems. It is the chief symbol of marital happiness and, as such, the most popular engagement and anniversary stone.

Some diamonds are lasered to turn black inclusions permanently colorless.

Ancients believed diamonds were splinters of shattered stars.

While the diamond is the most scratch resistant of all gems, it should be protected from sharp blows that can cause chipping.

April Birthdays:

Earl Kask 5th
Wendy Flynn 15th
Bill Cordua 21st
Reuben Shalander 21st
Cassondra Olson 22nd
Dave Flynn 29th

April Anniversaries:

Rodney Harvey 22nd
Freya and Earl Kask 28th

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

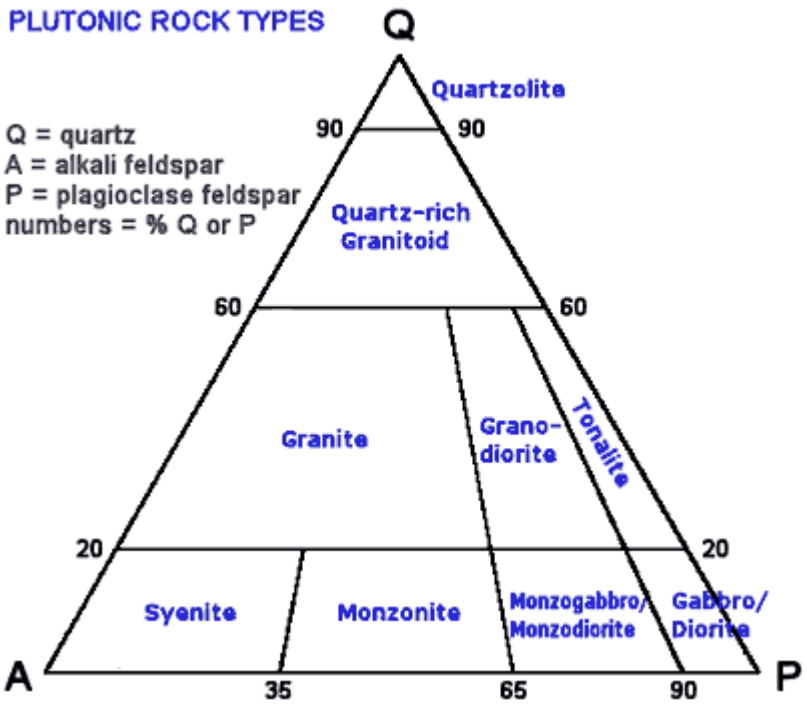
NO NEWS -if you have news - good or bad please call Marie at (651) 439-7809.

The Carlton County Gem and Mineral Club is making its annual appeal for donations of agate for the "Clark-Olsen Agate Stampede". All quantities of "lower-grade Lake Superior agates" accepted. Call Gene & Carol Risdon (218-879-3968) or Phil Gotsch (763-717-1641) to arrange for pick-up and transport. Moose lake days are July 14-15, 2007.

Igneous Rock Types Simplified

The official classification of igneous rocks fills an entire book. This article is a simplified description of how to classify the most common subset of igneous rocks: those with visible mineral grains, or phaneritic rocks, in which feldspars and quartz make up at least 10 percent by volume. (The other subsets are mentioned at the end of the article.)

This procedure works best in plutonic rocks, in which all of the minerals have crystallized into visible grains. Volcanic rocks, both intrusive and extrusive, usually have extremely small grains and even some glassy (amorphous) material, so for them the procedure usually takes a microscope.



1. Determine the percentage, called the mode, of quartz (Q), alkali feldspar (A), plagioclase feldspar (P), and mafic minerals (M). The modes should add up to 100, and M must be 90 or less.

2. Discard M and recalculate Q, A and P so that they add up to 100—that is, normalize them. For example, if Q/A/P/M are 25/20/25/30, Q/A/P normalizes to 36/28/36.

3. Draw a line on the ternary diagram below where the value of Q lies. Q is zero at the bottom and 100 at the top. Measure along one of the sides and mark off the value of Q, then draw a horizontal line at that point.

4. Do the same for A and P. Those will be lines parallel to the right and left sides, respectively.

5. The point where the lines for Q, A and P meet is your rock. Read its name from the field in the diagram….*continued next page*

Exploding Rocks Dredged from Seafloor by Robert Roy Britt - LiveScience editor

Newfound undersea rocks explode when hauled to the surface and could hold a treasure trove of information about Earth's insides.

The rediscovered "popping rocks" have been known since they were first found in a voyage off the coast of Mexico 45 years ago. Attempts to find them again have failed until now.

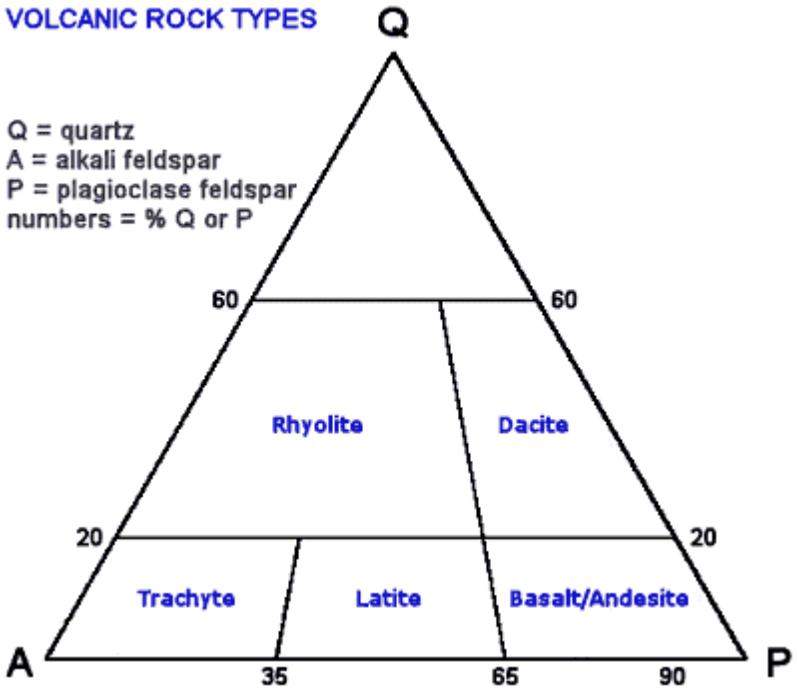
Ten failures …

A team of geologists set out earlier this month to search the undersea Popcorn Ridge for the source of the exploding rocks first reported by Scripps Institution of Oceanography researcher Dale Krause back in 1960. They hauled ten loads of rocks up with no luck. Then sonar revealed a small mound at the base of Popcorn Ridge, and the scientists dredged that spot, about 2 miles (3,200 meters) below the surface.

"As soon as we took the rocks out of the water we could hear them popping, much like a firecracker," said Barry Eakins, a post-doctoral researcher at Scripps and one of scientists on the voyage. "We were very excited because we knew this was a big find."

The mound is now named Krause Volcano.

The popping is caused by pressurized volcanic gases trapped in bubbles within the lava rocks. When they're no longer confined by the pressure of the deep water, the bubbles pop. Clues to inner Earth. *from the Southwest Gem 11/05 via Stoney Statements 10/06*



Notice that the rock names at the P vertex (high plagioclase) are ambiguous. Which name to use depends on the value of M. For plutonic rocks, gabbro has M above 35 (that is, it is dark) and diorite has M below 35 (light). In volcanic rocks, basalt and andesite lie above and below M = 35.

A large proportion of igneous rocks aren't suited for this classification method:

* Rocks without visible grains, or aphanitic rocks—these are classified by chemical, not mineral content

* Rocks without enough silica to yield quartz—these instead contain feldspathoid minerals and have their own ternary diagram (F/A/P) if they are phaneritic

* Rocks with M above 90, ultramafic rocks, which have their own ternary diagram with three modes (olivine/pyroxene/hornblende)

* Gabbros, which can be further classified according to three modes (P/olivine/pyx+hbde)

* Rocks with isolated larger grains (phenocrysts) may yield distorted results

* Rare rocks including carbonatite, lamproite, keratophyre and others that are "off the chart". *via Stoney Statements 02/07*

LUSTER *from MWFed Newsletter 11/06*

LUSTER is the way a mineral reflects light, or shines. There are two main kinds of luster:

1) **Metallic** - looks like a metal. Example: Galena, Copper

2) **Non-metallic** - not metallic.

a) Vitreous - looks glassy Example: Quartz, Calcite

b) Pearly - looks like the outside of a pearl Mica

c) Adamantine - has brilliant shine Diamond

d) Resinous - shiny like sap/resin from a tree Sphalerite

e) Silky - reminds one of silk Satin spar gypsum

f) Greasy - kind of brilliant, but looks Talc like it's rubbed with grease

g) Earthy - no shine, like a piece of ground Clay, Chalk

h) Porcelaneous - like a plate with not the shine

Sometimes one of the above lusters are called "sub...," as in "Sub-metallic." This means it looks almost like metal but not so definite, or almost like glass (sub-vitreous), etc.

Recognizing luster can be an immediate help to naming your mineral. Suppose you are rock hunting and find a white mineral. Quartz, diamond, calcite, gypsum, talc, and chalk can all be white. But if it looks silky, you will know that it probably can't be diamond, quartz, talc, or chalk. You should look in your mineral book to check the luster of what you think you have found. Some minerals may be found with several lusters, depending on the variety. Example: Gypsum can be silky (satin spar), glassy (selenite) or pearly.

Gold Reality *from Stoney Statements 12/03*

Gold is a native element and precious metal. Gold has long been prized for its beauty, resistance to chemical attack and workability. As it is found as a native element, gold has a relatively low melting point (1063 degrees Celsius) and is malleable. It has been used by mankind for thousands of years. Gold is used as a standard for international currency and is also widely used in jewelry, electronics (where its superb properties as a conductor help offset its tremendous cost), dentistry and in photographic processes. Gold is found as usually as disseminated grains in Quartz veins with Pyrite and other sulphides, or as rounded grains, flakes or nuggets in placer deposits and in streams and rivers. Gold is one of the heaviest minerals, and therefore can be panned easily because the Gold sinks to the bottom, below the other substances. In addition, it can be easily separated from other substances due to the weight differences.

The mineral Gold is almost always mixed with a small amount of silver, and sometimes contains traces of copper and iron. A Gold nugget is usually 70 - 90 percent gold, and the remainder mostly silver. The color of pure Gold is bright golden yellow, but the greater the silver content, the whiter the color.

Most Gold is mined from ore, containing tiny amounts of Gold in the ore. The ore is brown, iron-stained rock or massive white Quartz. To extract the gold, the ore is crushed, then the gold is separated from the ore by various methods.

Gold is less commonly found as nuggets. Nuggets are formed when erosion causes a large piece of Gold to separate from its mother rock, and then gets carried away into a stream or river. The flowing water tumbles the Gold, giving each specimen a distinct shape. The Gold eventually settles at the bottom of the water, and due to its heaviness remains there. Other nuggets also get caught in the same area, forming a placer deposit.

An even rarer form of Gold is as crystals, which are cubic, octahedral, and dodecahedral. Even when the Gold occurs in crystals, they are distorted or are almost microscopic.

The finest Gold specimens that have been found since early times have been smelted for production. Nice specimens, therefore, are regarded very highly, and are worth much more than the standard gold value.

Gold is the most malleable and ductile substance known. It can be flattened out to less than .00001 of an inch (less than .000065 cm) and a 1 oz. (28 gram) mass can stretch out to a distance of over 50 miles (75 kilometers)!

Gold is also one of the most resistant metals. It won't tarnish, discolor, crumble, or be affected by most solvents. This adds on to the uniqueness of this mineral.

Gold is usually associated with Pyrite and other sulfides, and many times cannot be noticed because of the association with these resembling minerals. In certain localities, minerals that contain these sulfides are heated high enough for the sulfides to depart, enabling the Gold to remain intact on the matrix. Such Gold is known as "Roasted Gold", and is occasionally sold in "rock shops".

Gold Mythology *from Stoney Statements 12/03*

So deep ingrained in the human psyche is the lust for Gold that nearly every culture has its own myths associated with Gold. Phaethon, son of Helios in Greek myth, lost control of his father’s golden chariot, which created the Libyan Desert. Jason, leader of the Argonauts in Greek Mythology, searched for, and eventually found, the fleece of a golden ram in order to claim his inheritance. The Greek and Roman Myth of Midas is about a king (Midas) who wished everything he touched would turn to gold but when Dionysus granted the wish, Midas soon saw the foolishness of his wish and asked Dionysus to release him the curse. To do so, Dionysus had Midas wash in the Pactolus River (in modern day Turkey). This is the mythological source of the real gold present in the river. *….continued on the next page….*

Gold Mythology continued…..

Beyond the normal greed and racism that drove the Spanish Conquistadors to commit the acts they did in the new world, was the search for the legendary City of Gold, El Dorado. In the 1500s, they searched for the city, expecting to find it with each exploration, and then changing its location to drive their men into new regions. By the middle of the 1500s they had pillaged and plundered all the way to Western New Mexico.

It was written by Pomponius Mela, that a certain area was uninhabitable, "because the Griffons (a cruel and eager kind of wild beast) do wonderfully love the gold, which lies discovered above the ground, and do wonderfully keep it, and are very fierce upon them that touch it." Gryphons have always been depicted as guardians of treasure. Gryphons themselves depict gold, as they represent the wealth of the sun at dawn, the gold in the east. They are also said to line their nests, called Eyries, with pure gold, woe be to the traveler looking to steal it.

Gold legends abound in the American West. Typically, they reveal and feed upon the fears of residents of the area. One typical story is the legend of a group of prospectors in the Wind River Mountains who found large nuggets of gold in a stream. Marauding natives killed two of the men and the third fled the area. When he returned to the area months later to search for the cabin where they had hidden their gold, he could not find it. Legend has it that the gold is still at its original hiding place.

Gold is associated with the Fall Equinox in Wiccan Religion. The Fall Equinox signals the time of harvest and the approach of darker days. It is a time of celebrating the harvest and thankfulness for the Wicca.

Gold's long history of use by mankind has given rise to a great number of healing myths. No doubt, its monetary value, which wells from a human lust for gold that is almost archetypal, has amplified the powers that healers attribute to the metal. That New Age healers call gold, "the Master Healer" is of little surprise considering how the desire that gold inspires approaches worship of the metal. Gold's lack of toxicity and its scientific properties of incredible malleability and ability to conduct energy, while remaining resistant to wear and corrosion, make it highly useful for Medical Science. Medical uses based on science have included the treatment of Arthritis, dental fixtures, and more.

Gold is associated with the number 2. Gold symbolizes the 50th anniversary in western culture

Name Origin: Anglo Saxon, of uncertain origin

Crystal System: Isometric - Hexoctahedral

Cleavage: None

Color: Yellow, Pale yellow, Orange, Yellow white, Reddish white.

Density: 16 - 19.3, Average = 17.64

Diaphaniety: Opaque

Fracture: Hackly - Jagged, torn surfaces, (e.g. fractured metals).

Habits: Arborescent - "Tree like" growths of branched systems (e.g. silver)., Platy - Sheet forms (e.g. micas)., Granular - Generally occurs as anhedral to subhedral crystals in matrix.

Morphology: Usually crude to rounded octahedral, cubes and dodecahedra to 2 cm. Often elongated on 100 or 111 forming herring bone and dentritic twins. Flattened plates with triangular octahedral faces. Rarely as wires(111 elongation)

Hardness: 2.5-3 - Finger Nail-Calcite

Luminescence: None.

Luster: Metallic

Magnetism: Nonmagnetic

Streak: yellow

RL Color: Gold-yellow when pure, silver white to copper-red when impure, blue and green in transmitted light.

Stolen Gems *St Croix Rockhounds Leaverite News*

Did You Know? There are birds nest made of volcanic glass. At least three species of birds in Hawaii National Park are known to build their nests from spun volcanic glass. Droplets of lava squirt into the air and solidify in filament known as “Peter’s Hair”. Thousands of delicate fibers are used by birds in building a single nest. *from Quarry Quips, June, 2006 via Stoney*

Pyrite Suns are found in the coal mines of Sparta, Illinois at the 300 foot level in a very narrow seam laying on top of the coal vein. Miners in four mines bring them out in their lunch buckets, thus preserving what would otherwise be destroyed in the mines. Originally thought to be marcasite, research by the Smithsonian Institute has proven them to be pyrite and, therefore, very durable. Surrounded by black shale and coal, a very difficult cleaning process unveils their hidden beauty. Dating in age to 35 million years old, one of the present theories of origin has them as a pyritized fossil replacement of a lily pad. Their natural beauty lends them to a variety of jewelry making ideas. *from Quarry Quips, June, 2006 via Stoney Statements 02/07*

The secret or the art of healing fractures in a cab with epoxy is to shape your stone and semi-polish it. To get rid of that nasty crack, heat the stone to 200 degrees in the oven. Mix the epoxy and apply it to one edge of the crack. Gradually apply the epoxy, working from one end of the crack to the other.

This is very important. You will notice that the epoxy becomes very liquid when it touches the hot stone and it flows right into the crack. By applying the epoxy at one end and working toward the outside edge of the cab the air is driven out. Put the stone back in the oven for 20 minutes. The epoxy will harden. Scrape off the surplus and finish polish. If done right the fracture will be difficult to detect. *from Rock Collector, Puget Sounder, Rock Rollers, Contact Zone, via The Rock Vein, 2/2004 via Stoney Statements 02/07*

Pressure Stabilizing: Find a glass jar that is big enough to hold your rock and is airtight. Punch three (3) pencil-size holes in the lid close enough together to be covered by a shop vacuum hose. Silicon the lid to the hose. Place the rock in the jar, and cover one side of the rock with one (1) package of well-mixed 330 Epoxy. Secure the lid, and turn on the vacuum; continue the suction for 20-25 minutes. Carefully remove the rock from the jar and place on foil. Place in oven at 150° or lowest oven setting for 2-2 ½ hours. Allow to cool in oven, preferably overnight. *from Pick and pack 05/07*

Stabilizing Porous Stones: Using a jar with a lid to fit the stones, add one (1) pint on Acetone. This should be done in a well-ventilated area, preferably outside. Add contents of 330 Water Clear Epoxy to Acetone and mix well. Add well-dried stones; cover, and let remain for at least four (4) days. Remove stones, and allow at least one (1) week to dry thoroughly. The stones should be stabilized and ready for working. *from Pick and pack 05/07*

Polishing Abalone Shell: Tumble abalone shells in a fine quartz sand. Put into a barrel with enough water to just cover them and rotate for 1-2 days. Wash thoroughly and put into the barrel with 2 ounces of Tripoli for each 6 pounds of shells. Tumble for 12-15 hours.Wash and dry thoroughly. Fill the barrel half full of shells; add hardwood sawdust for cushioning. Add polish of your choice in the ratio of 2 ounces to 6 pounds of shells. Run dry for 2-3 hours. Wash and admire.

CAUTION: Abalone shells emit a poisonous gas. Release the gases every day and do it outdoors. Do not inhale the gas fumes from Abalone. *from HY Grader, June, 2006 via Stoney Statements 02/07*

Is it true that babies are born without knee caps? If so, why? Newborns do have kneecaps. Kneecaps form about the fourth month of fetal life. However, they don’t show up on x-ray very