

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



October 2008

First Class

Please send exchange bulletins to:

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Stillwater, MN 55082



October 21st – The Program is:
**Fluorescent Agates by Pete
Rodewald**

St. Croix Rockhound's
LEAVERITE NEWS

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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	Pete Rodewald	(715) 425-5561
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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! - St. Croix Rockhounds club meeting will be at Stonebridge Elementary School on W. Elm. St. in Stillwater, MN in the cafeteria. Meeting time will be 7:15 pm. The program is: "Fluorescent Agates" by Pete Rodewald (this is tentative).

COMING ATTRACTIONS

October 18-19th: Minnesota Mineral Club rock show at National Guard Training and Community Center, 8180 Belden Blvd in Cottage Grove, MN. 10-5 Sat and 10-4 Sun. Contact Alan Olson 612-729-8331 for more information.

October 21st: St Croix Rockhounds monthly meeting at Stonebridge Elementary School in Stillwater starting at 7:15 pm.

October 31-Nov 2nd: Rocky Mountain Federation Show in Tulsa Oklahoma

November 2nd: End of daylight savings time

December 13-14th: Anoka County Gem & Mineral Club Winter Show at the Eisenhower Community Center, 1001 Highway 7, Hopkins, MN



Minutes of the St Croix Rockhounds September 16th, 2008

The meeting was called to order by acting president Vic Martinsen at 7:20 .

The treasurer's report was approved as given by Lin Rawlings.

Minutes of the May meeting were approved as written in the September Leaverite News. Doug Olson has Midwest Federation and AFMS newsletters for anyone who wants them. He also passed around a ballot for Midwest Federation officers so people can indicate their preferences. Vic noted that Pete Rodewald is in for testing as he has heart irregularities. We wish him the best.

New Business:

Sandy Fuller brought up that the Minnesota Mineral Club is hosting the Midwest Federation show in 2010(?). The St Croix Rockhounds is invited to prepare a showcase for the show.

Refreshments were brought by Helen Betlach and Bill Cordua.

The meeting was adjourned at 7:27. There were no doorprizes.

Tonight's program was SILENT AUCTION.

Submitted by Doug Olson, secretary

Celebrate! October's birthstone is opal:

Does wearing Opal if it is not your gemstone will bring bad luck to you? in 1829 ,Sir Walter Scott published *Anne of Gerstein*. In this book the main character dies and her death is attributed to the wearing of opal. The question is: Was the book inspired by folklore or did the book create the folklore? The multicolored opal is also considered to be a gemstone of good luck, beauty and fascination. Believe as you wish.

Tourmaline was added to the list of October birthstones in more current times.

October birthdays:

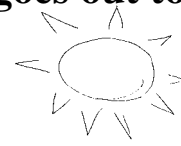
LeRoy Betlach – 3rd

Floyd Kimball – 10th

October Anniversaries:

John and Sandy Parsons – 11th

**Lin Rawlings died suddenly
from an aneurism. Our
sympathy goes out to his famliy.**



You may want to publish the silent auction results in the newsletter in case I am not at the October 21st meet. A total of \$286.00 was collected from the auction.

Thanks, Lin

[Eerie, e-mail received from Lin Sept 26. **Lin will be missed.**]

Moonstones: Moonstone almost seems magical with a ghostly shimmering glow floating in a crystalline material.

The Romans thought that moonstone was formed out of moonlight. Moonstone is a variety of feldspar and the shimmer, which is called shiller or adularescence, is caused by the intergrowth of two different types of feldspar, with different refractive indexes. In Europe, moonstone is considered the birthstone for June, although in the United States it shares that distinction with the pearl. Moonstones come in a variety of colors.

The body color can range from colorless to gray, brown, yellow, green, or pink. The clarity ranges from transparent to translucent. The best moonstone has a blue sheen, perfect clarity, and a colorless body color. Sometimes moonstone will have an eye as well as a sheen. Another related feldspar variety is known as rainbow moonstone.

In this variety of labradorite feldspar, the sheen is a variety of rainbow hues. Fine moonstone is quite rare and becoming rarer. It is mined in Sri Lanka and Southern India. The rainbow variety can also be found in Madagascar. Moonstones are usually cut in a smooth-domed cabochon shape to maximize the effect. Sometimes they are carved to show a man-in-the-moon face. Moonstone beads also display the sheen very well and are simply stunning against a black dress. from Golden Spike new 9/03 via Rock Chips 10/07.

Amethyst

Purple has long been considered a royal color so it is not surprising that amethyst has been so much in demand during history. Fine amethysts are featured in the British Crown Jewels and were also a favorite of Catherine the Great and Egyptian royalty. Amethyst, transparent purple quartz, is the most important quartz variety used in jewelry.

Leonardo Da Vinci wrote that amethyst was able to dissipate evil thoughts and quicken the intelligence.

In Tibet, amethyst is considered to be sacred to Buddha and rosaries are often fashioned from it.

Because amethyst was thought to encourage celibacy and symbolize piety, amethyst was very important in the ornamentation of Catholic and other churches in the Middle Ages. It was, in particular, considered to be the stone of bishops and they still often wear amethyst rings.

The legend of the origin of amethyst comes from Greek myths. Dionysius, the god of intoxication, was angered one day by an insult from a mere mortal and swore revenge on the next mortal that crossed his path, creating fierce tigers to carry out his wish. Along came unsuspecting Amethyst, a beautiful young maiden on her way to pay tribute to the goddess Diana. Diana turned Amethyst into a statue of pure crystalline quartz to protect her from the brutal claws. Dionysus wept tears of wine in remorse for his action at the sight of the beautiful statue. The god's tears stained the quartz purple, creating the gem we know today. *from the Internet-various articles via Stoney Statements 3/06*



Manmade Gems:

Victoria Stone is a 'reconstructed' stone, mineralogically similar to nephrite. It is formed from minerals, quartz, calcite, magnesite, and feldspar. The raw materials are fused together at a high temperature to form a molten magma, mineralized under special conditions to make a new mineral of fine fibrous, aggregate structure, mineralogically belonging to the amphibole group. It is compact and tough with a special crystalline structure. Instead of tying together like jade, the crystals orient into fans, providing the brilliant chatoyancy characteristic of this material. It has a hardness of 6 on the Mohs scale, specific gravity of 3.02, and a refractive index of 1.62. It is available in 15 colors. The transparent faceting material is slightly softer, and less refractive. It fractures easily and must be handled carefully.

Ruby Glass is known to contain gold to give it its beautiful color. Gold reflects light strongest at the red end of the spectrum but absorbs transmitted light strongly at that end of the spectrum. As a result, small crystals of gold reflect red light and very thin gold leaf or gold plate (in a molecular thin layer) appear blue-green by transmitted light (You may be familiar with quartz crystals, plated with a thin layer of gold called aqua aura, which are this color). Molten glass can dissolve small quantities of gold and the usual content of ruby glass has a dissolved content of 0.001 %. When the glass is cooled rapidly the gold remains in solution as molecular sized particles and the glass remains clear. However, upon reheating to 6000 to 7000 degrees C (app. 1,200 degrees F) and held there for several hours, the gold comes out of solution and forms tiny octahedral crystals of 1 to 10 nms. in size. This process is called 'striking'. These tiny gold crystals reflect red light but absorb other colors and gives the ruby glass its color. The process of coloring glass with gold has been practiced for centuries.

Article originally from Ruby Glass, by Dick Knox

Synthetic Stone: 'synthetic' does not mean 'artificial', it means the stone has been grown in the laboratory and has exactly the same chemical composition as its natural counterpart. An artificial stone could be an entirely different material, or faked with some real material sandwiched with glass or plastic, but a synthetic stone has all the same properties as a stone pried from the bedrock. "Boules" which can be bought for faceting may be synthetic, but the stone will be virtually indistinguishable from the real thing. *from Rock Chips 07/08*

BINGHAMITE *By Ruby Lingelbach*

If you should see a chunk of this stuff lying on the ground you would probably not give it a second glance— unless, of course, you just happened to know that it can produce a marvelous cats-eye or sheen when cut correctly.

The sheen or chatoyancy is caused by light reflections on very minute crystals of iron minerals such as goethite embedded in quartz. The red color comes from a hematite stain, and yellow comes from limonite. It is different from tiger-eye in that the reflecting fibers in tiger-eye are asbestos. The iron crystals in Binghamite are generally straight; in silkstone the fibers are crooked, bent or broken before being embedded in quartz. The rock was named in honor of William J. Bingham of St. Paul who discovered the beauty of the stone in 1936. It has a hardness of 7 with 98% quartz content.

Binghamite is found in the Cuyuna Range of central Minnesota. Other iron-ore areas further north in Minnesota were known and being worked earlier because seams of the ore were visible on the surface. Ore was suspected in this area because as early as 1859 a government surveyor found that his magnetic equipment did not work in Central Minnesota. The minerals were covered by glacial drift. The iron bearing rock was discovered by Cuyler Adams, a major developer of the area, using a "dip needle." He had roamed the hills many times with his dog "Una." In 1905 when a geologist asked Mrs. Adams to name the Range, she combined the first part of Mr. Adams' name, "Cuy" with his faithful dog's name. Thus, the Cuyuna Range was named, and it became an important mining area.

In the 1920's 18 million tons of ore had been produced with peak production of 28 million tons leaving the area in the 1940's. By 1970 annual production was down to 200,000 tons, and the underground mining ended in Minnesota in 1968.

Ore from the Croft Mine was the richest in the Range with an iron content of 55+%. The Croft Mine's main shaft descended 110 feet and a steel shaft went on down to the 333 foot level. Horizontal tunnels or "drifts" went out from these into the ore. The Croft Mine closed in 1934 and was purchased by the State in 1978.

Today the main industry is tourism. It utilizes to great advantage the beautiful lakes created by the mining industry. Some of the lakes are as deep as 480 feet with pristine, blue water. The Croft Mine is open in the summer only, as a tourist attraction.

The state has built good roads for the tourists, and rockhounds use these as an advantage also. But those traveling the back roads have trouble getting lost. Some property is state owned, some by corporations and some by private individuals so it is recommended that any rock hunter find a guide. The old dump sites where Binghamite is found are brush covered; chunks of Binghamite are usually oxidized and hard to recognize. Because the pieces are found in old dumps, there are no veins or pockets of ore. A lot of digging is necessary to find any of this material.

The beauty of this stone does have its price. It leaves the saw oil thick and red. The trim saw blade-table will get piles of thick red mud that must be periodically removed. The cab blank also needs frequent wiping to keep the lines visible. And if you want to keep your Genie decent, it must be thoroughly cleaned after the grinding – including inside the hood. The sheen is very directional so great care must be used in the slabbing as well as placement of the cab.

References

Program script by Gary Witcher, Coteau des Plaines Gem & Mineral Society, Watertown, S.D., in the RMFMS Program Library.

Gemstones of North America, Vol. 1, John Sinkankas, Van Nostrand Reinhold Co., N.Y., 1959.

"Binghamite and Silkstone" by John J. Kammerer, *Lapidary Journal*, 05/89

from *THE ROCKHOUND GAZETTE*, 11/96 via *Stoney Statements* 08/08

Iowa Cold Water Agate

You do not have to drive to Arizona for serious rockhounding. Iowa is about as good as it gets in some categories: geodes, fossil Paleozoic marine fauna and coldwater agates.

We find two kinds of agate in Iowa. Lake Superior agates were formed in vesicles in basalt around the Lake Superior region and transported into Iowa by glaciers. The agates we find in gravel are Lake Superior agates.

Coldwater agates form in limestone and are native to Iowa and some other Midwestern states. They are found in limestone quarries and occasionally in road cuts of stream beds where they have eroded out of nearby limestone exposures.

Of course, not all limestone contains coldwater agates. Iowa's best coldwater agates are found in quarries in Keokuk County. The best of these quarries is the Kaser Corporation Quarry near Keswick... and the quarry is closed to collectors. The first time I went to the Keswick quarry the roads were paved with agates: not keepers, but tantalizing enough to make my heart pound as we headed for the nearest spoil bank. A number of coldwater agates were found with which we were thrilled. We carried our buckets full of what we considered trophy specimens up the long steep road to our car, exhausted but exhilarated. I had never even dreamed of rockhounding like this.

I went back several times that summer, always searching the spoil bands and always finding nice material by the bucketful. Then permission to search became hard to get. The guys who found the monster agates, we later found out, did not search the spoil banks. They knew which strata contained the best agate and searched where new openings had been made in these strata. I have seen some of these guy's agates and the best of them, in my opinion, far outshine Brazilian agates and thundereggs. Beautiful coldwater agates can be found in the quarries, roadcuts and bluffs near the Cedar River in Benton county and the Maquoketa River in Delaware County. These are less colorful than the Keswick agate but still provide the Iowa Rockhound an opportunity to find large well-banded agate nodules that are great for lapidary work.

The coldwater agate of Story County is not well known and rather hard to find. Most of it is of lousy quality but a small percentage is very attractive and good sized with nice wide, starkly contrasting banding in black, white and orange. The only way I know of to find it is to search the creek beds and hope your serendipity kicks in that day. If you know of a better way to find it, please let me know!

The question of etymology always arises in any discussion of coldwater agates. The term was first used to describe a banded chalcedony found in limestone matrix in Wisconsin and seems to have been coined by amateur rockhounds. Scientists generally prefer the term "banded chalcedony" since this material is more opaque than the "true" agates (i.e., those formed in igneous rock). This is only speculation but I think the adjective "coldwater" is applied to this material because the limestone matrix evokes coldness, while the igneous matrix of other agate evokes heat. This is a not-quite logical folk etymology since both matrices were equally cold by the time the agate was formed. *By Rick L. Olson from Cedar Valley Gems 03/02 via the Rock Rustler's New 03/08 via Hidden Treasures 05/08.*

Hot enough for you? An unexplained "thermal anomaly" caused a patch of land north of Los Angeles to reach a temperature of 812 degrees Fahrenheit. The anomaly was discovered last month after the land got so hot that it started a brush fire, burning about three acres. By the time firefighters arrived at the area the fire was out and only smoldering dirt and brush remained. The hot spot is in an area which is considered to be an active landslide that has been shifting for more than 60 years. Several hundred feet below its rugged, cracked surface are pockets of gas, tar and oil. ...continued on the next page...

Hot enough for you cont.... One theory is that cracks along the surface allow oxygen to enter into the earth and support the underground combustion of hydrocarbons as they seep from the fine-grain shale. A former geologist with the U.S. Forest Service stuck a thermometer into the ground and got a reading of 550 degrees Fahrenheit – so hot that it melted the glue holding the soles of his boots together.

Fire officials expect that the hot spot will last until the next heavy rainfall, when water and mud plug the fissures. *from Fractured Agate 08/08*

Tumbling to Polish Cabs

By Rick Copeland, Pres., Colorado Springs Mineralogical Society.

I use vibratory tumblers to polish about 90% of my cabs. I rough out the cabs on a 100 grit lap. Then I put them into the vibratory tumbler with 150/220 grit with ceramic media and run it for a day or two. Then I clean it out and run it on a 600 grit for a day or two. Then I clean it out and run it on 600 grit for a day or two.. Then the cabs are cleaned with soap and water and put into a separate vibratory tumbler with tempered glass shards that have been through a 150/220 and 600 grit cycle to take the sharp edges off (you can also use ceramic media sold at jewelry supply websites and stores for tumble polishing jewelry). I use tin oxide for polish. I let it run for at least 3 days, usually 5 or more.

I use a spray bottle to add water so as not to add too much. I start the tumbler and give it 4 or 5 squirts of water. Then I add a couple of tablespoons of tin oxide and watch the action. When it slows down, I give it 4 or 5 squirts. Once it's rolling pretty good, I add another two tablespoons of tin oxide. Again I watch the tumbling action and when it slows down, I give it another 4 to 5 squirts. You want the tin oxide to be covering your stones and media. Now let it run an hour and come back and check. If the rolling of the stones and media is sluggish or the paste tin oxide has a dull look to it, give it 4 to 5 squirts of water. You should have just a bit of white liquid showing on the inside edge of the bottom of the mass of stones and media. *from Strata Gem 04/08 via Rock Chips 05/08*

Bad Day at Black Rock

By Frank Habets from <http://paleo.cc/kpaleo/fun-habe.htm>

Ottawa, Canada. The time was mid-day and the last vestiges of snow had finally turned to briny mud. I was new at collecting...and decided to trek around the city perimeter in search of black shale outcrops. To my utter amazement, I spotted a huge mountain of shale at the far end of a desolate field. The walk to the mountain proved to be annoying, as this field was covered in mud. At first the mud was ankle deep, but grew even deeper as I progressed. As I neared the mountain, I began to suspect that what I had first thought to be shale was in fact just more mud. Still, the presumed rocks beneath it might prove productive, I thought, so I merrily trudged on. By now, the mud was knee-deep and hard to negotiate. But not too far away was one of a series of boulders leading to the mountain's edge. The plan: get off/out of that damn mud by playing boulder hop-scotch the rest of the way. And so I jumped on the first big rock. But it wasn't a rock. It was in fact a huge ice-dirt-salt-sludge ball. My eyes were finally opened. This mountain, it turns out, was literally the tip of an urban iceberg--the consequence of clearing billions of pounds of snow and slush from city streets throughout the winter and amassed here in this pit. But I didn't feel like walking back through the mud. I noted that I could jump from sludge ball to sludge ball all the way to the left side of the field. Wrong. One of these bastards caved in under my weight, and I crashed right through it. I was up to my chest in that evil muck and slush, and seemed to sinking lower and lower as I tried to get out. But I did get out, eventually--minus my pants and shoes, buried in the ice-slime for some archaeologist to discover thousands of years from now. I walked back to my home with my spring jacket tied around my waist, trying hard to look normal. What pissed me off above all was that I was coming back empty-handed.

Stolen Gems *St Croix Rockhounds Leaverite News*

Three Minerals for the Price of One! This rock is valued for its attractive combination of yellow, gray and brown colors. Found only in nodule form, these concretions are typically made up of three successive layers of three different minerals (always the same three). What makes this rock unusual is that all of the minerals have *exactly the same chemical formula!*

The rock is **Septarian Nodule**, also known as Dragon's Egg. The grey outer layer is Limestone, the yellow center is golden Calcite, and the brown layer separating the two is Aragonite. Although differing internal structures make these different minerals, all three have the same chemical formula: CaCO_3 - calcium carbonate. Some are even nine feet in diameter on the shores of New Zealand! *from MWFederation Newsletter*

Purple Desert Glass: In the old days, glass makers used quantities of beach sand in making their glass, and many impurities, such as manganese, were included in the final product. The reaction of this metal to the ultraviolet rays of the sun over many years turns the glass purple. The lack of humidity in the desert atmosphere allows 90% of the solar heat to reach the ground during the day.

Placing old clear glass in an aluminum-lined box and exposing it to an ultraviolet light on a 24 hour basis can color the glass much faster. Some of the desert glass sold today has been produced in such a fashion. *from Glacial Drifter, 11/03, via The Roadrunner, 05/08 via Stone Chipper 08/08*

Cabochon Tips: Diamond trim saws of 6 to 10 inches are most commonly used for making cabs. Some tile-types use water and have rust resistant blades while others use oil. If water is used they must be drained each time they are used or they will rust out quickly. Don't ever -" E v e r" - flush drain cuttings or water from your equipment down the drain - unless you want to buy a new sewer system. This stuff sets up like cement in your pipes.

Cat litter is a good way to absorb oil out of slabs that have been cut with an oil saw. Also, some dish soap and water help finish the cleaning. 3/16th is the most common thickness cut for cabs. For higher crowned cabs or double sided cabs greater thicknesses are needed.

Many types of things can be used for dop sticks including nails, flat end bolts, etc. Salvaging thin cuts and special types of fractured rock by gluing on doublets with epoxy then finishing a cab was intriguing. Changing the color of the base under translucent or thin types of material can change the appearance and color of the cab.

By using vinegar or another acid based product with the polish (tin oxide), you can quickly bring out a high glossy finish. Check cabs when they are dry rather than wet when moving through grit sizes to see the scratches which need to be removed. *from Beehive Rock & Gem Club 03/08, Tips assembled by "Rocky Ray", via Strata Gem 5/08, RockCollector 06/08, Stoney Statements 06/08 via Stone Chipper 08/08*

Old Miner's Rule: While a miner's tools, equipment and personal belongings remain in or next to a digging, that is his until he relinquishes it either by removing said property or announcing that he is finished digging in that area. Furthermore, specimens or rocks cached on or near said personal property are also the property of the miner and shall not be touched or removed without his express permission. Every Rockhound should obey this rule. *from the Geode via the Victoria Gem and Lapidary Society website*

Polished jade: A little graphite added and mixed to ordinary buffs makes a wonderful jade polishing agent. It also works on some hard to polish agates, or by this recipe: 1 tablespoon of tin oxide and one cup of vinegar on a leather buff (avoiding the dry buff while polishing) produces a good polish on jade, using either high or low speed. *~Reprinted from Kentucky Agate via Gneiss Times Boulder, Co. and Flatiron Facets, via Rock Chips 9/98 via Stone Chipper 03/08*

Hint: Use soft water for tumbling rocks. You won't get staining from hard water and you won't believe the difference.