

THE



J A S P I L I T E

Affiliated with the Midwest Federation  
of Mineralogical and Geological Societies



OFFICIAL PUBLICATION  
of the  
ISHPEMING ROCK AND MINERAL CLUB, INC.

Published quarterly

OFFICERS-1971

President	Vernon Miljour	Gwinn
1st Vice president	Charles Bemis	Gwinn
2nd Vice president	Ernest Johnson	Marquette
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Librarians	Ray and Edith Anderson	Marquette
Editors-Jaspilite	(Laurence and Olive Sain	Marquette
Publicity	(Ernest and Helen Johnson	Marquette
Curator		

DEADLINES: Jaspilite--March 1, June 1, Sept. 1, and Dec. 1.

MEMBERSHIP: The Ishpeming Rock and Mineral Club, Inc., is open to anyone interested in the "Earth Sciences".

Initiation fee.....	\$1.50
Husband and wife annual dues....	3.00
Adult annual dues.....	2.00
Junior annual dues.....	1.00

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OUR PURPOSE

To enjoy, to learn, to teach and to conserve  
The rocks, the gems, the fossils and ores.

To collect, to admire, to brag and to show  
The material we've found we'll trade for yours.

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CONTENTS

President's letter	2	Exhibit Helps	11
Secretary's Minutes	3	Safety Notes, etc.	12
Membership Report	4	Chlorastrolite, Thomsonite, Lin-	
Committees for '72	5	tonite & Pink Prehnite	13
Geodes for the Taking	6	Patricianite	14
Rockin' 'Round	7,8,9	Agates	15,16,17
1972 Field Trip Convention	10		



From the President,

With our minds made up to have a successful Field Trip Convention in 1972, I wish to thank all who are going to make this convention and show a success. A few of the members have already put in an exorbitant amount of time and before 1 August 1972 rolls around, there will be many others who will be doing the same.

During the past year, we had field trips that were well attended but on each of these, there was room for several more members and friends.

The Christmas party was well attended but several were missing, (including yours truly, the price of having a son living downstate).

Each one of us should make it a point to thank the news media for the coverage we have received during the past year. I hope this cooperation will continue in the future and even improve.

Thanks to any and all who have had something to do with the programs. Some of the programs were outstanding. Let's hope we can find some more hidden talent among our old and new members.

My thanks go out to the officers who served with me during the past year. Since some may be serving again in 1972, I can only hope they do as well next year.

Chris and I wish to thank the club for allowing us to be delegates to the Midwest Federation Convention and Show in Mansfield, Ohio this summer. But I don't know if I should thank anybody for the job (Credentials Chairman for the 1972 Convention in Ishpeming) which was handed to the delegate from our club. All kidding aside, I was fully aware of the Credentials Chairman job before I was appointed as a delegate. The extra work gives one a chance to meet many friends in the hobby.

VERN MILJOUR

ATTENTION:

A New Year's resolution is to get the 1972 Jaspilites out within each month they are due. Each of you can help by getting material to the editors so they can do their job!

Arrangements for our monthly meetings will have to be made on a month to month basis during 1972. Watch your local paper for the monthly announcement or call one of the officers the week before the meeting.

DUES are DUE. You have until April 1 to send them to the treasurer or better yet pay them at the February or March meeting, Thank you.



.....from the SECRETARY'S MINUTES

#### Field trips:

Vern Miljour would like to see a committee working during the winter on field trips. Pat Bemis suggested that this be done so every one will have advance knowledge of all trips and can plan accordingly. The club thanks Vern Miljour and Bob Markert for the field trips they led this fall.

#### Badges:

Cost of badges was \$58.51. Contact Ernie Johnson if you want to purchase a badge.

#### By Laws:

Laurence Sain recommended that we duplicate enough copies of our By Laws so that each member can have a copy.

#### COMMUNICATION ON HALL RENT:

A letter was received from the secretary of the Negaunee Township Board that whereas our rental fee was \$5.00 it would be increased to \$10.00 per meeting and if the attendance was over 50 at a meeting the cost would be \$20.00. John Jacobson was authorized to contact the board for more information which he would pass on to our executive board. The executive board was authorized to make the decision as to whether we would continue meeting at the hall at the increased rent or make other arrangements.

#### 1972 Midwest Field Trip Convention:

Bob Markert, convention chairman said that mcu has been done but the time consuming jobs will keep ALL members busy in the coming months. Mr. Tubbs will be official photographer for the convention.

#### U.P. Fifth Annual Gem Show:

Bernie Smith said that cases and displays can be set up on Wednesday so they will be ready for the convention.

#### A.B. Roberts gift of rocks:

It was decided that the rocks and minerals be sold to club members at a reasonable price.

#### Nominating committee:

The president named John Jacobson, Audubon Jenkins and James Hudson to the nominating committee to prepare a slate of officers for the January 1972 meeting.

#### Program..November:

Mr. and Mrs. Tubbs gave a slide program on the History of Michigan copper. All reports were that it was excellent and it is hoped that they will repeat the program for those who couldn't make it due to bad roads. The Tubbs prepared their own slides.

#### Bragging rocks displayed:

Mike Quayle displayed rocks and minerals given him by his teacher. Vern Miljour displayed geodes from Iowa and Illinois as well as Ohio flint. Mrs. Tubbs had a collection from Alabama.

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MEMBERSHIP REPORT

Renewals:

Fries, James	207 Michigan, Marquette	226-8644
Fries, Peggy (jr)	" " "	
Larmour, Wilfred	RR. Box 591, Ishpeming	486-5683
Larmour, Jeanette (Mrs.)	" "	
Matthews, Frank, Sr.	U.S. Highway 41, Negaunee	475-4865
Matthews, Katherine (Mrs.)	" "	

Small, Lowell	100 Marble St., Ishpeming	486-6588
Small, Dawne (Mrs.)	" "	

New Members:

Mulzer, Arnold	322 Rock, Marquette	226-2321
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BREAKDOWN OF MEMBERS 1971

Spring, 1971	12/30/71
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Total number of members	98	115
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Area Breakdown:

Marquette	41	47
Ishpeming	20	25
Gwinn	13	13
Negaunee	6	8
Other localities	18	22

Breakdown by type of membership:

Regular members	68	80
Junior members	14	15
Associate members (out of town)	14	18
Life members	2	2

New members in 1971.....14

CLUB BADGES....REPORT

To date, 75 badges have been sold.

Club badges are available for sale at each regular monthly meeting. Please purchase yours; and you can wear this emblem proudly.

Associate members may obtain their badges by mailing \$1.00 plus 8¢ postage for each badge to:

Ernest C. Johnson, Jr.  
 1962 West Fair Avenue  
 Marquette, Michigan 49855



COMMITTEES for our monthly meetings..October 1971--October 1972

<u>Date</u>	<u>Hostesses</u>	<u>Door prizes</u>
Oct. 17, 1971	Theresa Bemis Christine Miljour	Pat Bemis
Nov. 21, 1971	Mildred Jenkins Florence Christian	Vern Miljour
Dec. 19, 1971	Theresa Bemis, Doris Garceau Pat Elis, Anna Voivula	CHRISTMAS PARTY & DINNER
Jan. 16, 1972	Myrtle Hunt Olive Sain	Laurence Sain
Feb. 20, 1972	Marlene Brunngraeber Clarice Smith	Glenn Brunngraeber
Mar. 19, 1972	Ruth Wivela Hilda Jacobson	Jarl Wivela
Apr. 16, 1972	Anna Voivula Helen Johnson	Ernie Johnson
May 21, 1972	Luella Reidy Mamie Jarvi	A. E. Murray
Oct. 15, 1972	Ida Wilson Doris Garceau	?
Nov. 19, 1972	?	?

(Adeline Hudson and Linda Barrett will substitute if needed.)

A sign up paper for these committees was passed around at the October meeting; since some of you were absent, you didn't get to sign up. If you would like to help the club and its officers, you can call the president and offer to help in any of the spots above having a ? mark. Or if you have any questions about either committee call Christine Miljour or Olive Sain.

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HARDNESS SCALE KEY

To (talc) gain (gypsum) confidence (Calcite) forget (fluorite) all (apatite) faults (feldspar), quit (quartz) tempting (topaz) certain (corundum) defeat (diamond).

.....By: F. S. Young  
Submitted by: S. Barnes (Mineralogist)



## GEODES FOR THE TAKING

.....Vern Miljour

While in Moose Lake, Minnesota for Agate Days, Chris and I met Mr. and Mrs. Hubert Deutweiler of Mount Pleasant, Iowa. He is the president of the local rock and mineral club. Since our plans called for us to hunt in the Keokuk area for Geodes we were all ears when he made any suggestions. Hubert and his wife were headed away from home, so he gave us the name of Stan Hunsaker who operates a memorial works in Mount Pleasant.

Stan gave us information on two collecting spots. One of these was south of New London, Iowa, where about 5 acres have been set aside by the conservation department for rockhounds. The digging can be done next to a drainage ditch. We found that the best tools to use were a shovel, rock scoop and rock hammer. The digging is done in soil with the geodes occurring as deep seated field stones. These geodes varied in size from 1" in diameter to about 8".

Since it was early evening and we needed a camping place our next stop was Geode State Park about 5 unmarked miles away. I asked one of the rangers at the gate, as to the reason that the route was so poorly marked. His answer was to the effect, "We get a full house most of the time so why should we ask for trouble."

Geode State Park is a very well organized state park with several hundred campsites. The park boasts of a well designed water front. A couple of the campers told me they had seen many of the others walking back to the camp sites with geodes that had been picked up along the nature trail. Apparently, collecting in the park is either allowed or is ignored by the rangers.

The following morning, Chris and I returned to our previous evening's diggings and again success was reasonable. In fact, the two largest geodes were found on the early morning hunt. Since returning home, several of the geodes have revealed insides that are interesting. The two largest still haven't revealed their secrets, maybe they never will.

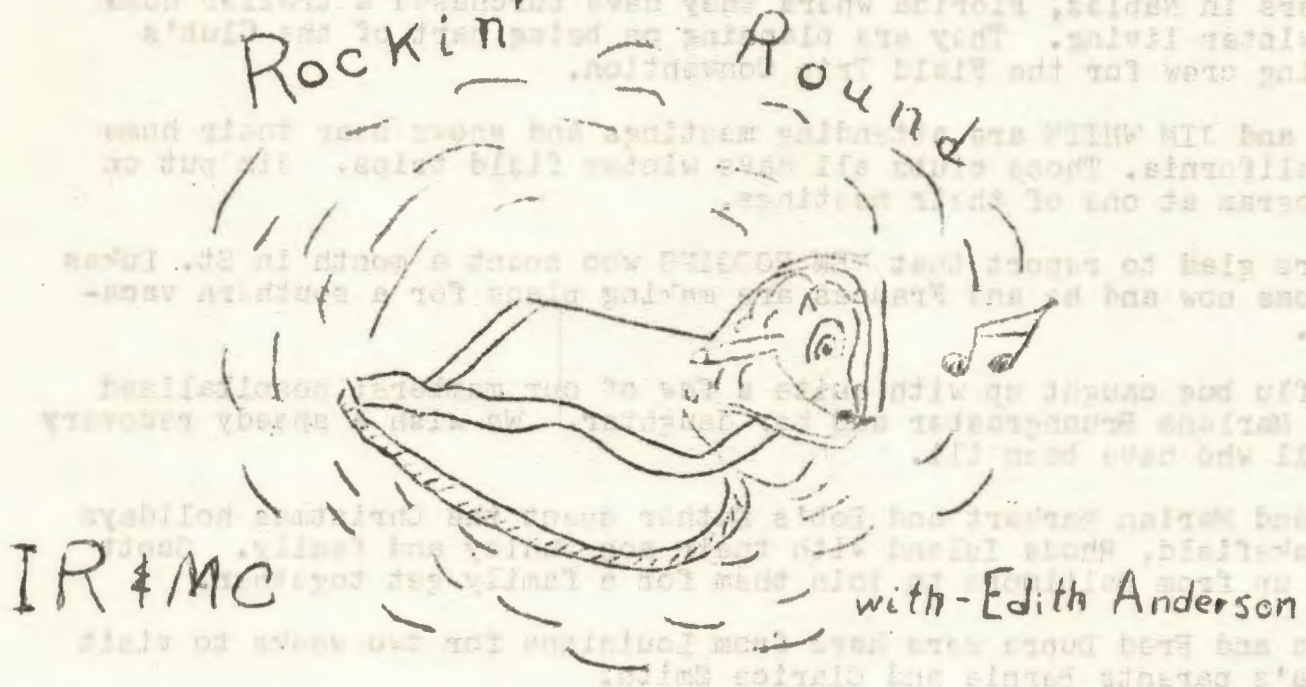
From New London, Mount Pleasant area, the route was southward to Keokuk and Hamilton, Illinois. Gray's Quarry within sight of the Mississippi River was the next target.

With permission from the company office, we went into the dump at the far end of the pit. The geodes in Gray's Quarry have a light gray outer surface. Some are solid or nearly solid; while others are very thin shelled and will shatter if opened incorrectly.

The tools needed are a good heavy hammer for breaking up larger chunks to reveal the geodes inside and a bar to move the chunk into working position. The sun was hot at midday so we cut our hunt short. Also our car and trailer were beginning to show the effects of the load and room was still needed for future collecting.

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ANNETTE SUZANNE was born to Helen and Ernie Johnson Sept. 26, 1971. One more rockhound coming up. She attended her first board meeting at Pat Elies.

The R. R. Andersons attended the Flint Gem and Mineral Club Show on Oct. 1st. Some real good exhibits. The Markerts had their usual complete display of articles and findings for sale. Adeline and Jim Hudson accompanied them and assisted in their booth.

SYMPATHY is extended to Clarice and Bernie Smith who lost her brother in Medford, Oregon. A tree fell on the Caterpillar he was driving crushing him.

Chester Bignall who had been a member of our club for many years and has a rock shop in his home on county road 480, recently lost his brother Allen Bignall. Our sympathy is extended to all the family.

Our deer hunters are back in civilization with most of them unlucky. We think they should stick to rocks. Ray Anderson brought back a bag of Brachiopods and fossil formations from the Stonington Peninsula so his hunting wasn't a total loss!

Mrs. Mary Spear Ross underwent treatment for oral cancer at the Mayo Clinic in Rochester, Minnesota in June and surgery on her chin in September. She is home recuperating.

RUFUS MAYNARD suffered shoulder injuries this fall but is out and about now. Hope to see you at our next meeting.

.....continued



....rockin' round continued...

HELEN and ARNE NELSON are enjoying the warm weather and beautiful flowers in Naples, Florida where they have purchased a trailer home for winter living. They are planning on being part of the Club's working crew for the Field Trip Convention.

FERN and JIM WHITE are attending meetings and shows near their home in California. Those clubs all have winter field trips. Jim put on a program at one of their meetings.

We are glad to report that FEN HODGINS who spent a month in St. Lukes is home now and he and Frances are making plans for a southern vacation.

The flu bug caught up with quite a few of our members; hospitalized were Marlene Brunngraber and her daughter. We wish a speedy recovery to all who have been ill.

Bob and Marian Markert and Bob's father spent the Christmas holidays in Wakefield, Rhode Island with their son Dudley and family. Scott came up from Baltimore to join them for a family get together.

Linda and Fred Dupre were here from Louisiana for two weeks to visit Linda's parents Bernie and Clarice Smith.

The Vern Miljours spent their vacation with one of their sons who lives in Lower Michigan.

BOB SCHENK and AUDUBON JENKINS have recently retired from C.C.I. Now they can enjoy full time all the hobbies and travel that they sampled on weekends or vacations in the past.

CHRISTMAS PARTY-- About 46 members attended the annual Christmas dinner at the Wawanoin Golf Club on Dec. 12. Theresa Bemis and her committee made the tables very festive with colorful favors and decorations. The Tubbs exhibited a beautiful Christmas mantel piece featuring rocks. Bob Markert kept us all busy with the several games, some to test us on rock identification and others for sheer fun; if you were lucky you won a prize! We were all very thankful to our member from Garden City, Al Mullaly for his many donations of mineral specimens and jewelry for draw prizes; the lucky winners had treasures to take home. Pat Bemis, Bob Markert and Laurence Sain entertained the members with a collection of slides of summer travels. Exchange of gifts helped to make the party more fun which ended with visiting and wishes for a happy holiday season.

Copy Number 3 of the MINERAL DIGEST is ready for the members to enjoy. Be sure to sign your name and date on the sheet in front of the book. Pass the magazine on to someone who has not read it; do not keep it for more than a week or two. Book No. 1 is still available. Call 226-2327 if you want to borrow one of the copies or want to know to whom to pass it on to next.

.....continued..



.... rockin' 'round continued...

OBITUARY...The death of Joseph H. Collick, Ishpeming notes the passing of a charter member of our club. He will long be remembered by many of us for his generous donations of rocks, prizes and gifts. He especially helped the younger members and liked to give them samples to encourage their interest in the rock and mineral hobby. He had a large collection of rocks and minerals from all parts of the world and enjoyed having people stop in to see them. His illness during the last few years kept him from entering in the activities of the club.

EDUCATION...Edith and Ray Anderson were invited by their twin granddaughters to come to their school in Flint and tell the other students about rocks. We didn't have any Upper Peninsula rocks or minerals as give aways for them but we did enjoy our visit and talking to them. It is rewarding to work with children. The highlight of the visit was the packet of letters sent to us by their teacher, Mrs. Thompson with a thank you from each one. We wish we could go again and tell them more.

Olive and Laurence Sain prepared a kit of Igneous, Sedimentary and Metamorphic rocks and rock forming minerals for their niece who is a 6th grade teacher in Farmington to be used in her Earth Science Unit.

Vern Miljour has a display at the Gwinn school which he keeps rotating. Pat Elie has a display at the MacDonald school. William Larmour has a display at the Republic school.

AUCTION.....March meeting                      AUCTION.....March meeting  
We hope all the members are selecting rocks, minerals, or hobby equipment for our auction at the March meeting. The proceeds from this sale goes toward our part in the AFMS Scholarship Fund. Don't forget that the Batty Crocker coupons are also used for this fund. For those of you who haven't started a collection, the auction is a fine place to start, so come prepared with extra cash.

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#### OUR LATEST FIELD TRIP, NOV. 22---Lindberg's Quarry

About 35 hardy members of the club accompanied field trip leader, Bob Martart to Lindberg's Quarry. The day was dark, cloudy and threatened rain but what's that when you know what treasures are to be found? A good supply of beautifully scenic, dark pink, and brecciated Vona Dolomite was gathered by all. During the ride through the quarry and the walk to the far end, the members began to realize that soon there would no longer be a supply of this beautiful rock and there was much lamenting the fact that this picture rock was being crushed and used for roads, etc.

Knowing that the source of supply would soon be used up made this trip a memorable one. Thank you, Bob.



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 32nd annual MIDWEST FEDERATION FIELD TRIP CONVENTION  
 and  
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 5th annual Upper Peninsula Gem and Mineral Show  
 at  
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Ishpeming Armory on July 20 - 24  
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The Ishpeming Rock & Mineral Club, Inc.- Ishpeming, Michigan 49849 - will host the 32nd annual Midwest Federation Field Trip Convention in conjunction with the 5th annual Upper Peninsula Gem and Mineral Show at the Ishpeming Armory on July 20 - 24, 1972. This combination of events bears special significance; not only is this combination unique with the Midwest Federation, it has been indicated that this will be the last Field Trip Convention due to the paucity of collecting areas available to the expanding public demands.

The Field Trip Convention is limited to 3,000 people at a registration fee of \$15 per person. Registration packets have been submitted to all Midwest Federation clubs and other interested parties. A fleet of 50 buses has been contracted for, and all field trips will be by bus only. All potential participants must be registered by June 19, 1972 (30 days prior to the convention) and must be present by Friday, July 21, 1972 in order to secure a place on the field trip buses. The coordination of 3,000 people for 5 days by a small club is a monumental task and all precautions for your safety and enjoyment are to be taken. Remember too that the first 3,000 registration blanks returned will constitute the successful field trip participants. File early!

Thorough preparations have been made to insure a most memorable field trip convention. Everyone from the micro mineral buff to the hand specimen collector to the lapidary enthusiast is assured of successful collecting at numerous locales. Classic mines such as the Champion, Michiganme, Michigan Gold, Republic, Humboldt, Ropes Gold, Ohio, and the Empire will be visited along with the Vona Dolomite and Verdi Antique Marble sites. Opportunities will also present themselves to seek out slag heaps and beach-washed materials plus spare-time visits to a plethora of other locations abounding in the immediate vicinity. It is guaranteed that the value of specimen material found on the organized field trips will more than offset the cost of registration.

The 5th annual Upper Peninsula Gem & Mineral Show will be the focal point for all activities. Displays will include minerals available at the field trip sites, collections of local interest, plus models of mining lore to acquaint visitors with the history and industry of the area. Competitive and non-competitive exhibits are also a part of the plans for the show. A total of ten dealers will complement efforts to offer all visitors an opportunity to take home with them a visible memory of this fascinating region. The culmination of the convention and show will be a huge Rock Swap to be held on Monday, July 24, 1972.

For further information please contact:

Charles R. (Bob) Markert, Chairman--R.1, P.O. Box 620, Ishpeming 49849  
 Laurence W. Sain, Registration-- 818 W. Vays, Marquette 49855  
 Bernard Smith, Gem Show--1512 Lynn, Marquette 49855



## .....AIDS TO HELP YOU PLAN YOUR EXHIBIT FOR THE 1972 SHOW

Speciman Arrangement

1. Place them...not too close nor too far apart. Leave as much space around the specimen as the specimen takes up.
2. Separate vividly colored specimens to give color balance to the case.
3. Do not put all large pieces on one side of the case. Generally keep larger specimens in the back.
4. Dark specimens give a feeling of weight so they shouldn't all be grouped on one side of the case.
5. Specimens having a definite point should be arranged to point to the center of the case so that the viewer's eye will not be directed from the exhibit.
6. Generally, avoid placing specimens in straight lines; this arrangement is usually considered static and is regarded as poor showmanship.
7. Do not lean specimens against the wall unless it serves a practical purpose, such as in the case of a very large specimen where it might need the wall for support.
8. A material called gray wax is excellent for holding specimens in proper position. Never use modeling clay as its oil will stain the lining material and may ruin the specimen.

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Midwest Federation Newsletter

We didn't receive our copies for the 3rd issue of the Jaspilite nor for this one. Our secretary is checking on the matter and hopefully they can be added to the March 1972 issue of the Jaspilite.\*\*\*\*\*

Fabrics to line your display case

1. FABRIC- texture: it should suit the specimens on exhibit. For example you wouldn't exhibit faceted stones on burlap but the burlap would complement large pieces of petrified wood or large slabs. Nor would fossils be displayed on velvet.
2. FABRIC- type: select a material to complement and draw attention to the specimens on exhibit. Outing flannel, Indianhead, velvet, straw-cloth, burlap and many of the new drapery fabrics are good choices. A stretch fabric is good because it fits over risers without wrinkles.
3. FABRIC- color: choose a color to complement your specimens. Neutral colors--light beige, white or pastels, etc., blends with the specimens. Dark colors absorb light and should be used with care; good lighting in the case makes the use of dark colors possible. Bright colors may overpower the specimens. Sometimes a contrasting color helps to show off specimens. Generally, only one color is recommended except for very special effects, and then no one specimen should have a background of more than one color.

U.P. Polishing Material

This issue has much on Copper Country polishing material. The March issue will zero in on some of the popular polishing material from Marquette County.\*\*\*\*\*



## ROCKS TOO BIG FOR YOUR SAW???

## SAFETY TIPS

To cut native stones and rocks into smaller pieces needed for fireplaces, entrance markers and stone fronts, saturate a  $\frac{1}{2}$  inch rope with gasoline and tie it around the stone where the split should occur.

Ignite the rope and wait until the brief hot flame dies away. Strike the stone several sharp blows with a sledge hammer, following the charred mark of the burned rope. The stone will fall cleanly apart where the rope has been bound.

For splitting the smaller stones or breaking off small sections in a series of splits from a large stone, an old clothesline will serve as well. Since the breaks are clean and follow the turning rope, much labor in dressing the stone is saved.....But use CAUTION.....(The Gemrock via Arrowhead Chips.)

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## DID YOU KNOW???

Glass imitation gems known as "paste" were introduced in 1662.

Amber is nearly 40 million years old. There is no modern amber.

Cameos were first introduced about 300 B.C.

Iris Agate must have 400 to 10,000 lines per inch.

Chromium causes the color in emerald.

Peacock ore is the miner's name for bornite.

The largest gold nugget on record was found in Australia. It weighed 2,280 oz.

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When operating your lapidary machinery:

1. Read and reread your instructions often enough to be certain of them.

2. Check the blades on your saws to be certain the arbors are tight and the carriage is parallel to the blades.

3. Be certain the rock is clamped tightly to prevent any movement of the rock as it is being slabbed. Tighten the rock between each slice cut.

4. Use the proper coolant for your saw and be sure you use plenty. Never try to cut a rock dry!

5. Keep coolant clean so chips, grit and sludge do not accumulate.

6. Use the proper amount of power according to the specifications of your equipment.

7. Sharpen, dress, your saw blades when sawing a lot of hard material according to the instructions received with your blades.

...(via Rock Dust, and The Hammer)

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## Mine and Quarry SAFETY LAWS

These laws have been finalized. They state that all persons are required to wear hard hats when in or around a mine or quarry where falling objects may create a hazard.

All persons must wear suitable footwear and safety glasses, goggles, or face shield in or around an area of a mine or quarry where a hazard exists which would cause an injury to the feet or unprotected eyes. THESE REQUIREMENTS DO APPLY TO ROCKHOUSES.



( EDITOR'S NOTE: I thought our new members would like the following articles on some of the popular cutting and polishing material available around the Lake Superior region.)

CHLORASTROLITE-----THOMSONITE-----LINTONITE  
.....by Mrs. Evelyn Bernke (Trilobite)

Chlorastrolite is found only on Isle Royale in Lake Superior. The underlying rock is an amygdaloid trap, in which the gem is found, but is also collected in the form of rolled pebbles on the beach, having fallen or weathered out of the trap rock. It is entirely opaque, of green color, mottled and stellated, and admits a high polish. Sometimes the stellation radiate from the center and show a beautiful chatoyancy similar to cats-eye, crocidolite and other fibrous minerals. Chlorastrolite was first found in a vein stone associated with native copper and epidote.

Thomsonite and Lintonite both found at Good Harbor Bay, Grand Marais on Lake Superior, Minnesota, in the basalt and as rolled pebbles on the beach, result from decomposition of the rock, the amygdules withstanding the action of the weather better than the rocks. Thomsonite is a zeolite mineral, it varies in size from a pin head size to over an inch in diameter. (Also found in and around the Keweenaw Peninsula)

Many of the Thomsonites are made up of series of concentric layers of various shades of colors, in soft tones of flesh red, creamy white, yellow and green, and are exceedingly pretty, especially when polished, then they resemble the eye-agate. Great numbers are annually sold to visitors to this Lake Superior area, especially at Duluth and Grand Marais, Minnesota.

The cutting of Thomsonite consists almost entirely of a rounding off of the pebble so as to show the concentric and other markings to the best advantage.

Lintonite is named after Laura A. Linton who analyzed it, It is a small dark olive-green pebble, a variety of Thomsonite and takes a fine polish alone or when associated with the flesh colored form of Thomsonite. At a casual glance it appears very much like certain olive-green translucent Burmese jades.

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PINK PREHNITE CONFUSED WITH THOMSONITE, ISLE ROYALE

...by G. Gaenslen (Achates)

Attention is called to an article "Pink Copper-Bearing Prehnite from Isle Royale National Park, Mich." by N. Wind Huber in the United States Geological Survey Professional Paper page 650 D, 1961 page 63. The following is a resumé of D. Huber's findings.

Pink Prehnite at Isle Royale, which occurs in amygdules in Keweenaw lava flows, has been generally mistaken for Thomsonite in the past and is still being sold as Thomsonite in some rock shops.

...continued on next page....



.....Pink Prehnite continued.....  
 The pink color is due to disseminated copper in prehnite.

At Thomsonite Beach abundant prehnite is found on the beach and in adjacent outcrops, but a search yielded only a few Thomsonite amygdules. The false "Isle Royale Thomsonites", do not have the striking patterns and color variations of true Thomsonites.

Criteria for differentiating Thomsonite are given by Dr. Huber, as follows:

	PREHNITE	THOMSONITE
Hardness	6 - 6½	5 - 5½
Specific gravity	2.80 - 2.95	2.25 - 2.40
Refractive Index	1.614 - 1.665	1.511 - 1.545

Similar pink Prehnite with copper inclusions is reported from Triassic Lava flows on Van Couver Island, British Columbia. (Dec.- Rock Rustler's News via Trilobite)

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PATRICIANITE---A NEW CUTTING MATERIAL (Exchange)

One of the pleasures of the lapidary who can make field trips is to keep experimenting with the cutting and polishing of all the likely and unlikely oddities he brings home from his excursions afield. My own attic has a 250 pound box of such one, two or a few-of-a-kind stones, and some of these have cut into the most beautiful cabochons I own.

However, one-of-a-kind stones raise little interest among friends who see them. Patricianite is such a stone. It is drab powder-green when dry, but dipped into water the green takes on deeper color and luster. Grinding and other tests showed the stones to have a hardness of 6-6½. They took a brilliant polish, although a few pieces proved difficult and required the same polishing care as jade.

All the material shows minute specks of native copper in both the pink and green portions, and these flash brilliantly even two months after cutting, probably because the surface of the stone has flowed under polishing heat and thus protects the copper specks from tarnishing.

So far, we did not know that the material we had found was new and unnamed. It remained for Professor W. A. Seaman, of the geology department of Michigan College of Mining and Technology, to set us right.

"Your green and pink stone," he wrote "appears to be a mixture of chlorite and prehnite, with inclusions of native copper. So far as I can determine the mixture has never been named. It's true mineralogical name would be cumbersome in trade circles. It is perfectly

.....continued, next page.....



....patricianite continued....

proper and legitimate for you to coin a trade name." Our 3-year old daughter, Patricia Ann said, "Why don't you name it for me, daddy?" PATRICIANITE!!!

By H.L. Luoma, Ahmeek, Michigan taken from the Mineralogist, August 1945. Submitted by Henry Pittenget.

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### LAKE SUPERIOR AGATE---THE RAINBOW IN ROCK--(Cedar Valley Gems 12/70)

What is an Agate? What of their origin? When you get the answer to the first question you have the answer to the second.

Most agates originated in the trap rocks of the northern Laurentian upland. Others came from basalts in the Willarney Mountains. These mountains are an ancient chain extending from Minnesota across Wisconsin and Michigan, and on eastward into Canada. Others yet have come from more recent dikes and sills of upthrust lava.

Upper layers of molten lava contain steam and gas cavities that remained empty as the lava cooled and hardened. Into these cavities water carried saturated solutions of dissolved and suspended quartz. The hardening was either rhythmic (in which bands were formed), or by a layer-to-layer process fluctuating with the ground water level.

There are many theories on the how and why of agate formation, but whatever the true origin, all agree that agates were formed in cavities and open seams in trap rocks and in basalts. No single mode of formation can account for all agates and no single theory can account for all the different structures. Any agates with crystal-filled centers are believed to have been formed by a later filling of mineral rich liquids into an incompletely formed agate, and were undisturbed, allowing the crystals to form.

Agate is an Oxide of Silicons; species--Quartz; variety--Cryptocrystalline; sub-variety--Chalcedony. Which boils down to agates being an exceptionally fine-grained quartz, with crystals so small they aren't visible without magnifying.

The eye area of an eye agate is formed in the same way stalactites are formed in caves. They grow by depositing layer by layer of drops of silica gel adhering to the sweating rock. When fully formed, its circular bands closely resemble strikingly the iris and pupil of the human eye. This same growth during intervals of cavity sweating forms tubular ducts or canal agate structures.

Lake Superior Agates occur in a great variety of colors. They have been found red, orange, brown, gray, yellow, white, green, blue-green, or in many combinations of these many lovely colors. White and bluish Chalcedony bands vary from translucent to a porcelain-like opaque.

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.....agates..continued

The eyes that occur in agate usually show little relationship in color to the parent agate, since the coloring matter came from a different source than the agate itself. Onyx varieties sometimes can show color combinations completely unrelated to the surrounding agate. The onyx agates are those whose layers grew in wider than usual bands, all horizontal and one on the other. This type agate shows a process of sedimentation and water level. The colors are the result of the presence of many different minerals. For example, an apple green could come from nickel oxide, and many of the reds come from hematite.

Then we encounter another theory, and also some evidence has been found in agates to indicate that most Lake Superior Agates were of the colorless, translucent variety at the time they were formed. Instead of the colored banding being deposited in layers, the more porous bands took on the colors of the many surrounding minerals after the agate nodules were free of their matrix. It has also been concluded that coloring depends on the availability of iron salts, the physical condition of the stone and on the chemistry and type of weathering encountered by the agate.

A variety of descriptive names are used as side names under the title of Lake Superior Agates:

1. Banded Agate---the colors usually occur in parallel bands.
2. Carnelian---Chalcedony in reds and browns.
3. Dendritic or Moss-- In which inclusions acquire the likeness of trees, bushes, etc.
4. Fortification Agate-- Because it has parallel lines resembling fortifications.
5. Onyx--Straight parallel color bands or layers which is true onyx.
6. Sardonyx--Agate that contains layers of white chalcedony and carnelian sharply defined.

As a member of the Quartz family, under the cryptocrystal-line branch, agate is one of eight members of this family: Chalcedony, Carnelian, Sard, Jasper, Flint, Chrysoprase, Agate, Sardonyx, Onyx, and Chert.

Distribution of these nodules began when weather and chemical erosion broke up the ancient lava flows. The agate nodules were set free and were scattered by flooding. Then, beginning perhaps one million years ago, mile thick ice pushed and also carried the harder parts of the formations, and ground up others as the glaciers moved. They were carried down across Minnesota, Wisconsin, Iowa, Michigan, Illinois, Nebraska, and parts of Kansas and Missouri where we still find these Lake Superiors today.

But the biggest and most often asked question is: "Where can I find these agates?" In the areas that Lake Superior agates are known to be found are: gravel pits (glacial gravel), gravel bars on rivers and streams, road side ditches, new road cuts, freshly graded roads, or even plowed fields often give up a good yield of agate. Farmers stone piles have often been a source of agate, if you have the patience.

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....agates continued....

River beds, when water is low, rain-washed gullies, and fields and pastures in gravel uplands are some of the best sources.

Gravel operations are at: LaGrange, Missouri and Muscatine, Iowa. Any gravel pit or dredging operation along the Mississippi River, gravel roads in the St. Cloud, Minnesota, area and on to the north-east of St. Cloud are especially good. Most of the over-burden mine dumps on the iron ore range in the Hibbing, Minnesota, area are excellent--but hunt with AUTHORIZED PERMISSION ONLY because of the extreme danger. And always look along the lake shores anywhere in Minnesota. (Michigan and Canada)

Reference books for Agate information are:

The Agate Book, by H. C. Dake

The Exciting Book of Rocks and Gems, by Elsie Lee

The How and Why of Picking Agates, by Robert Minton

Lake Superior Agates, by T. C. Vanasse

Rocks and Their Stories and The Rock Book, by Carroll and Mildred Fenton.

.....via Show-Me Newsletter.

\*\*\* \*\*

### THE DUES ARE DUE SONG

(For best effect, sing, read, hum or whistle(?) to the music of "I'll Never Fall in Love Again!").

What do you get when you pay your dues?  
You get good friends and a quarterly news-letter,  
Things that make our hobby better,  
That's what you get when you pay your dues!

Let me tell you what it's all about;  
There's been no change, so hear me shout;  
Couples \$3 or \$5 for the entire family,  
Singles \$2 and juniors are in for \$1 only.

What do you get when you pay your dues?  
Peace of mind, when you pay on time.  
January first is the yearly dues date.  
Let's all pay now and not be late.

(via The Kettle Krier....with changes to apply to our club)

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ROCK COLLECTING IS A WONDERFUL WAY OF LIFE WHETHER REGARDED AS A HOBBY, A VOCATION, OR AN EDUCATIONAL ENDEAVOR.

"Life is like an onion; you peel it off one layer at a time and sometimes you weep".....Carl Sandburg



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4th issue, 1971

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Any gravel pit or dredging operation along the...  
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of St. Cloud are especially good...  
from ore runs in the Hibbing, Minnesota, area...  
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And always look along the shore wherever in...  
(Minnesota and Canada)

...for more information...  
The Rock Book, by H. C. Lark  
The Exciting World of Rocks and Gems, by Philip Lee  
The History of the Rock Book, by Robert Weston  
The Rock Book, by L. C. Vanasse  
The Rock Book, by Carroll and Wilbur  
London.  
...via Snow-Hill...  
\*\*\* \*\* \*\* \*\* \*\*

THE DUES ARE DUE

(For past dues, also, read, item or article?) to the issue of "I'll  
Never Fall in Love Again")

What do you get when you pay your dues?  
You get good friends and a quarterly news-letter,  
Things that make our hobby better,  
That's what you get when you pay your dues!

Let us tell you what it's all about.  
There's been no change, no dear me about;  
Dues are \$2 for the regular family,  
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What do you get when you pay your dues?  
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