

JUL 77

**T H E**



**ROCK and MINERAL CLUB**

**J A S P I L I T E**

Affiliated with the Midwest Federation  
of Mineralogical and Geological Societies



# Midwest Federations NEWSLETTER



Published monthly except July and August as a service to members clubs.

All news, articles, subscription orders and requests for information concerning publication should be sent to the Editor, Haydon Peterson, Parrot Printing, 2125 Forest Ave., Des Moines, Iowa 50311

May 1977 - Issue No. 175

## Time to choose your delegates

Have you chosen your delegate and alternate delegates for the MWF Council meeting at the Convention in Dayton, Ohio, July 23? Time is growing short as these people should be listed with the Credentials Chairman by June 1. A form has been supplied to you for this purpose. We urge you to fill it out and get it sent in to Esther Mullaly promptly.

Remember that this is your big chance to make your desires known with respect to MWF policy and other matters of interest and benefit to all clubs and members. It is your opportunity to take first-hand action in the affairs of the Federation. Please consider and follow carefully all the instructions given on the Registration Form. Let's have a fine large turnout of dedicated folks for this convention and make it the best ever. *Hazel Kuntz*

## Five new programs

E. Donald Stinnett our Film Library chairman announces the addition of five new slide programs being made available to our clubs. In memory of his wife, a Mr. Walker of Indiana has presented the Midwest with a program on "Turquoise." Many of the slides in this program have been printed in Arizona Highways and are especially beautiful.

Through the combined efforts of John Jaeschke and two Wisconsin clubs, the Madison Lapidary and Mineral Club and Verona Rock and Gem Club, four programs on earth sciences are now added to the library service.

These programs are titled "Geology of Wisconsin," "Glacial Geology of Wisconsin," "Geology of Devils Lake, Wisconsin," and "Mining in Southwest Wisconsin."

Addition of these five programs fills a void in our film library but we are still in need of others. Clubs wishing to participate in providing programs for the Midwest should contact Donald Stinnett.

Clubs wishing to book the new programs for their club use, or for any programs in the library should send their requests to E. Donald Stinnett, 29462 Aspen Drive, Flat Rock, Michigan 48134. Be sure to include a first and second choice of dates and programs to avoid disappointment. Order early and include \$2.00 service charge for each program ordered.

**YOU'VE GOT A DATE IN DAYTON (Ohio), JULY 21-24  
MIDWEST SHOW AND CONVENTION**

## Bureaucratic interference

There have been many articles in many club bulletins, lauding the activities of the Bureau of Land Management. This might be well and good if it were not for the fact that the BLM activities consist largely of bureaucratic interference in the lives of people who could very well govern themselves if the already existing laws were adequately enforced. The true history of the deterioration of our natural resources very clearly points up the fact our laws have been flouted thru congressional chicanery, manipulated by big money power groups. We don't need more bureaucratic regulations, we need better law enforcement. *Chips, Fresno Gem & Mineral Society*

## More about Uniform Rules

The Uniform Rules are designed for Regional Federation Shows and American Federation Trophy Competition. Many local shows also have competitive exhibiting. While clubs are encouraged to use the Uniform Rules they are not forced to do so and quite a few clubs prepare their own rules.

The Regional Federation Rules Committee is responsible for the selection of judges at Federation Shows. Every attempt is made to choose only those persons who already have experience in judging under the Uniform Rules. Where do potential federation show judges get such judging experience? - club shows.

Umpires in the major leagues must first "ump" in Triple-A ball in order to maintain the level of officiating in the major leagues at a high level. So it is with judging at gem and mineral shows. Experienced judges aren't "born" - they are "made"! Hopefully they improve as they get more experience under their belt. Judging is a continuous "learning process" - there are new minerals, new locations, changes in names of fossils, improved display techniques, changes in rules.

There never seems to be "enough" experienced judges. The judging chairmen for club shows often must use the services of nearby professionals, such as college geology professors, jewelers, etc. There is nothing wrong with this, but remember these persons may not have very much, if any, background in the Uniform Rules and may assign scores based on personal criteria! It would be nice if the judges at all club shows were qualified for federation show judging. Until that time comes let's remember judges are human too, some have more experience than others, some are junior judges, some are "in training," but all judges are donating their time and energy to the hobby for the benefit of all of us. *Cal George*



## Publication prices

In the April issue we announced three new publications Uniform Rules, How To Make and Present A Slide Program, and the 1977 Midwest Directory. Copies of the Uniform Rules and How To Make and Present A Slide Program have already been mailed to all clubs.

Prices for clubs and individuals desiring additional copies of two of the three publications - Uniform Rules and "How To Make and Present A Slide Program" - described in the April newsletter have been announced. Prices for the 1977 Midwest Directory will be announced later.

Uniform Rules - 4th edition, blue cover - prices are: \$.75 per copy at the MWF Sales booth/tables; \$1.00 per copy (1 thro 4) post paid mail single address; \$.85 per copy mailed to single address in quantities of 5 or more.

"How To Make and Present A Slide Program" - prices are: \$.25 per copy at the MWF Sales booth/tables; \$.35 per copy (1 thro 4) post paid mail single address; \$.30 per copy mailed to single address in quantities of 5 or more.

Orders for these publications should be sent to Clinton Heckert, MWF Director of Supplies, 725 Stewart Ave., Elgin, Illinois 60120. Be sure your check for the amount to cover your order is enclosed along with the complete name, address and zip code where the copies are to be shipped.

## GAS LEAKS FOUND IN RECREATIONAL VEHICLES

A report from the Center for Disease Control indicates "a potentially serious health problem" exists with the use of liquefied petroleum gas and carbon monoxide leaks in recreational vehicles.

In New Mexico out of 410 recreational vehicles checked last year during a four month period it was found that 173 (or 42%) were leaking liquefied gas in the living quarters. Investigation found loose or faulty connections on appliances and stove pilot lights left on and not lit were the cause of the leaks.

## MARION GINGERY

Marion Gingery, charter member of the Flint (Michigan) Rock and Gem Club, died February 11. A past president of the club, as well as show chairman for 11 years, Marion was also active in Federation work, having served as State Director for Michigan, and later as Field Trip and Safety Chairman. A retired teacher, Marion continued his teaching career by teaching lapidary. He is survived by his wife, Genevieve.

## UNIFORM RULES BOOK CORRECTIONS

Two corrections should be made in the new 4th edition (blue Cover) edition of the Uniform Rules:

Page 12. Classes A-4 and A-6, add: P,Q,R,S.

Page 15. Rule 7.11 should end: "...shall be a minimum of twenty (20)." (Emphasis added.)

## New memberships

### ILLINOIS VALLEY GEM & MINERAL SOCIETY

Michael Crisman, President  
RR #1  
Sheridan, Illinois 60551

### ROLLING STONES

Christy L. Merz, President  
3631 Gerbert Road  
Columbus, Ohio 43224

### INDIVIDUAL MEMBERSHIP

Mrs. Bonnie Faurote  
3381 Pheasant Hill  
Akron, Ohio 44313

## Convention show plans

"Discover Dayton . . Gem City 77" is the title given the Midwest Federation show and convention opening in Dayton, Ohio on July 21 and continuing through July 24. The Midwest will be hosted by The Dayton Gem & Mineral Society. in the Dayton Convention Center in downtown Dayton. The headquarters hotel, Stouffer's Dayton Plaza Hotel, is connected by walkways to the convention center and all meetings, dinners and special events will be held either in the convention center or the motel.

The host club, The Dayton Gem & Mineral Society, has made elaborate plans to make this 1977 show one of the finest in Midwest history. Over 77,000 square feet of dealer and exhibition space plus a large lobby area for registration and show information will give ample room for everyone without crowding. In the hotel there are 13 meeting rooms and an auditorium seating 720 people available for the various meetings and programs planned.

Camping facilities are nearby. The Montgomery County Fairgrounds is only one mile from the Convention Center and has a capacity of 800 campers with 320 sites available with water and electricity hook-ups. Shuttlebus service will be provided from the campground to the Convention Center. Those wishing to make reservations should write to Iris Reily, Riverbend Art Center, 142 Riverbend Drive, Dayton, Ohio, 45405. Rates are \$5.50 with hookup and \$4.50 without.

A special feature of the show is the "Hall of States." The exhibit will be made up of a booth for each member state in the Midwest Federation. Each booth will have exhibit material found in the state and pamphlets, maps and other items of interest from the state.

In our June issue we will publish a complete show program together with other information. Those planning to attend this Midwest Federation show should make reservations now so as not to be disappointed.

If you wish specific information on any particular phase of the show, write or phone the Show Chairman, Ted Cadeau, 263 Ridgewood Ave., Oakwood, Ohio, 45409. His phone number is 1-513-294-0679.

PLEASE... DON'T BE A LITTERBUG



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June 1977 - Issue No. 176

## Convention plans completed for July show in Dayton, Ohio

General Show Chairman, T. T. Cadeau says plans are completed for the Midwest Federation show and convention opening in Dayton, Ohio on Thursday, July 21 and continuing through Sunday, July 24. The Dayton Convention Center in downtown Dayton is the site of the show and convention and is connected by walkways to the headquarters hotel, Stouffer's Dayton Plaza Hotel, and all meetings and events will be held either in the Convention Center or the hotel.

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terest from the state.

A very special editor's breakfast is planned for this year. The menu will be a little different. There will be printing demonstrations, and silk screening for bulletin covers will be demonstrated.

A demonstration on gold panning is planned throughout the four day show, done by one of our club members, who obtains his gravel locally and has been doing this for many years.

Speakers and displays include June Culp Zeitner - "The Gem World of Quartz"; and "Thundereggs, Those Fascinating Nodules"; Russell Kemp - "Carvings and Carvers of Idar-Oberstein, Germany"; and "The Lizzadro Museum Story." The Lizzadro Museum of Lapidary Art, Elmhurst, Illinois, will have an exhibit. The Lizzadro Family has a collection of carved Jades, one of the largest in the Midwest.

The Headley Museum in Lexington, Kentucky, will show a jeweled bibelot that has never before been exhibited outside the museum. Dr. Claude Wilkes Trapp, director of the Headley Museum, will be one of our speakers.

Messrs. Jack Price, Dave Miller, and Ernest J. Michaud will speak on lapidary, faceting, sapphires and rubies. A continuous demonstration of star ruby cutting and polishing by Ernest Michaud. He will have on display the Big Mahoo of Flint Michigan, "the largest star ruby ever cut by an amateur gem cutter."

Dr. R. A. Davis will speak about Dinosaurs; Dr. Joseph Mandarino on a subject yet to be decided, and Russell MacFall on "The Treasure



of Tutankhamun."

The Museum of Heidelberg College, Tiffin, Ohio, will have an exhibit. The Charles H. Jones Collection of Minerals contains over 4,900 catalogued specimens, the bulk of which was collected by Mr. Jones between the years 1896 and 1916.

Geode Industries, New London, Iowa, will show an American Eagle picture in polished gem stones taking 600 man hours to complete and shown in many displays last year during the Bicentennial. Approximately 385 large stones are used in the picture.

The Goniea's, Ralph and Jane, of Michigan, will demonstrate custom creations in wirecraft art. There will be exhibits from the Cranbrook Institute of Science in Michigan, Carnegie Museum of Natural History in Pennsylvania, Kohokia Mound Museum of East St. Louis, Ill. plus the Dayton Art Institute and Wright State University.

The Dayton Museum of Natural History should be presenting a pictorial archaeological display of the Indian Village, discovered in Dayton.

### WELCOME NEW CLUB

CENTRAL ARKANSAS GEM  
& MINERAL SOCIETY

President, Bruce Smith  
1006 S. Maple Street  
Little Rock, Arkansas 72119



## New program

Our film library chairman, Donald Stinnett, announces a new program has been added to those available for booking by our new clubs. Title of the new program is "Three Kinds of Rocks" furnished by the Madison and Verona Rock and Gem Club. This program is very basic, showing the place to start with your collection.

Stinnett would like the help of all Midwest State Directors in helping him compile a new program aids manual giving the names of speakers, and distances they would travel and their fees to appear on club programs.

Send your lists of speakers and requests for slide programs to Donald Stinnett, 29462 Aspen Drive, Flat Rock, Michigan 48134. Be sure to include the complete name and address of the person to whom the program is to be shipped and attach your check in the amount of \$2.00 for each program ordered.

## CLUB SHOWS - HELPING JUDGES HELPS EXHIBITORS

By Calvin George

In order for judges to do their best, the Host Club must assist the persons they have asked to judge. What should a club do to help judges?

1. Well in advance of the Show the person who has agreed to judge should be told:

- a. The time he is expected;
- b. Where he is to report;
- c. What to bring, if anything;
- d. If there is a time set after judging when exhibitors can talk to judges;
- e. Whether clerks will be provided;
- f. Whether judging sheets will be furnished.

2. Provide the official references for the Mineral Division, plus other official references.

3. Try to determine what kind of fossil exhibits are entered, advise the fossil judges and obtain the proper references.

4. Furnish a pass for the judge and spouse.

5. If ribbons for show officials are provided, comparable ribbons or other form of identification for the judges is appreciated.

6. Make some arrangements to compensate the judges, as the club is able; usually as an honorarium. It is not reasonable to ask a judge to give a full day or more of his time with nothing but a "thank you!"

## OUR ARCHAEOLOGY CHAIRMAN, DICK ADE,

suggests that persons in the Chicago area might want to visit the Chicago Field Museum to view the King Tut exhibit on loan from Egypt. The exhibit will be at the Museum until Aug. 15 when it will be moved to other U.S. cities.

## WE WERE SORRY TO HEAR

one of our former Midwest treasurers, William Dahlberg, has suffered a stroke. He is now home at 5744 Standish Ave., Minneapolis, Minn. 55417. A speedy recovery to Bill.

## CORRECTIONS AND ADDITIONS TO 1977 DIRECTORY

Regardless of how careful the annual Directory is prepared errors are found and corrections become necessary. In the 1977 Directory the name of our Environmental Chairman was omitted. He is Dr. David Hess, Dept. of Geology, Western Illinois University, Macomb, Ill. 61455. The Credentials Committee should show Mrs. Lavonne Grove as an Assistant, not Mrs. Lavonne Grace. Haydon Peterson should have been shown as Newsletter Editor and not as an assistant.

A club listing was omitted from the Iowa section.

**GEODE GEM & MINERAL SOCIETY**, President, Frances Oge, 925 Hayes St., Burlington, Iowa 52601. Liaison and Editor, Loyd Dietsch, 505 Swan, West Burlington, Iowa 52655. Bulletin, "Rockhounds". Meeting, 2nd Saturday, 7:30 P'M' at Midwest Federal Savings and Loan Community Room, 3rd and Jefferson, Burlington, Iowa.

## SCHOLARSHIP AWARDS

By Russell MacFall

Edwin Robert Hajic, a geology major at Cornell College, Mt. Vernon, Iowa is the 1977 choice of the Midwest Federation of Mineralogical and Geological Societies for the grant for graduate work under the American Federation's Scholarship Foundation. He was chosen by Dr. Fritiof M. Fryxell, geology professor emeritus at Augustana College, Rock Island, Illinois.



Edwin Robert Hajic

Hajic, who will be 22 years old this summer, first became interested in archeology at Northwestern University, where he has taken part every summer in the excavations at Kampsville, Illinois, directed by Dr. Stuart Streuver, Scholarship Award winner in 1973. There and at Cornell College he has continued study of clays, their origins, properties and use in ceramics as well as in geological and archeological relationships.

Dr. Paul L. Garvin, chairman of the geology department at Cornell, wrote of Hajic: "I believe that Edd has the capacity for creative independent research. Currently he is doing independent work in clay minerals using X-ray diffraction. His work is well organized and he is doing it with a minimum of supervision. His ability to make critical evaluations, plus the care and precision with which he works, should insure him success in graduate research. He plans to make a career of teaching and research at the college level."

Hajic's home is in Oak Park, Illinois.

The Midwest Federation of Geological and Mineralogical Societies was granted a "wild card" extra opportunity for 1977 to give scholarship aid to a graduate student through the Scholarship Foundation. The person to whom this has been awarded is Melvyn Peter Machin, a graduate of London Technical College in mineralogy at the University of Chicago, who was honored with the Scholarship award in 1976.



NOTES FROM THE SECRETARY'S MEETINGS CONT.  
 OFFICIAL PUBLICATION  
 of the  
 ISHPEMING ROCK AND MINERAL CLUB, INC.  
 Published Quarterly

OFFICERS & COMMITTEE CHAIRMEN - 1977

President	Carlton Gutman, 201 W. Magnetic	Marquette
First Vice President	Robert Phillips, 405 S. Rose	Ishpeming
Secretary	Sandra Phillips, 405 S. Rose	Ishpeming
Treasurer	Arnold Mulzer, 322 Rock	Marquette
Publicity	Dorothy Bowns	Negaunee
Finance	R. R. Anderson	Marquette
Field Trip	Robert Phillips	Ishpeming
Safety	Leonard Bartelli	Marquette
Curator	C. R. Markert	Ishpeming
Scholarship	Marian Markert	Ishpeming
Hostesses	Eleanor LaChance & Barbara DePetro	Marquette
Education	Vernon Miljour	Gwinn
Jr. Member Co-ordinators	Pat Elie & Chris Miljour	Gwinn
Librarian	Ernie Johnson	Marquette
Bulletin Librarian	Edith Anderson	Marquette
JASPILITE Editor	Sandra Phillips	Ishpeming
Assistant Editor	Dorothy Tubbs	Negaunee
Publishers	Laurence & Olive Sain	Marquette
Liaison Officer	Frazier Tubbs	Negaunee

Deadlines: January 1, April 1, July 1, and October 1

Meetings: Business meeting: 1st Friday of the month, 7:30 p.m.  
 at Bothwell Middle School  
 Program & activity meeting: 3rd Sunday of the month at  
 2:00 p.m., Bothwell Middle School, October-April.  
 Field trips during the summer months.

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.  
 . . . . . Bob and Marian Markert

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\*\*There are many additional articles but not enough room to list them.



NOTES FROM THE SECRETARY'S MINUTES

by Sandra Phillips

Our Club has been enjoying the field trip season. In May we went to the South Jackson Pit in Negaunee and to an area west of the Marquette Airport to look for axinite. In June, Bob Phillips led another successful trip to the Republic Mine. Dorothy and Frazier Tubbs coordinated our Memorial Day weekend field trip to the Copper Country. These field trips were open to all Midwest Federation Club members. The July field trip is to be led by Joe LaChance in search of satin spar in Delta County.

Olive Sain headed a committee to update our mineral display at the Marquette Chamber of Commerce. All specimens are now labeled and neatly arranged. Olive has written a report on the project which appears later in this issue of the JASPILITE.

Plans are now underway for our Rock Swap on August 6. Ernie Johnson has produced the flyers and is organizing committees. Please volunteer before you are asked. There is a lot of work to do if the swap is to be the success it has been in the past.

CALENDAR OF IRMC MEETINGS

August 4 (Thursday)--Business meeting, 7:30 p.m.

August 6-7 (Saturday and Sunday)--  
 Rock Swap and Field Trips  
 Marquette Tourist Park  
 Saturday Swap 9:00 a.m.-6:00 p.m.  
 Cracker Barrel Session on park grounds Saturday evening  
 Sunday field trips start from park at 12:00 noon.

CALENDAR OF IRMC MEETINGS CONT.

August 20 (Saturday)--tentative field trip to Silver Lake

September 1 (Thursday)--Business meeting, 7:30 p.m.

September 3-5 (Labor Day Weekend)-- field trip to Copper Country

October 7 (Friday)--Business meeting, 7:30 p.m.

ROCKIN' AROUND

by Edith M. Anderson

Hope you all had a bang-up happy Fourth. Did some of the members accept the Bowns' invitation to spend the weekend at Sunset Beach.

Field trips for this quarter were very good, well attended and very successful. May 7 and a field trip to Jackson Pit produced beautiful crystals, then axinite from the Airport. Highlight of the trip was accepting the hospitality of Allan Korby and his mother at their home. Horseshoe coffee cake with cheese and coffee served by them made this the end of a perfect day.

Our Memorial Day weekend made headquarters at McLain Park with trips south of Houghton and Central Silver and Cliff Mines. Twenty-five attended from our Club, fifteen from Holland, and two from Howell. Good weather and fun evenings were enjoyed with the fellowship and friendliness of the visiting clubs.

In June we went to the Republic Mine with Bob Phillips as leader. What a wonderful day. The hospitality of the Mine was very much appreciated. We were fortunate to find some beautiful quartz crystals and pyrite samples. After lunch at the Republic Swimming Beach, we continued...



drove to look at some other mines and then to the high road above the Tilden Mine to view that large project. At the Republic we also toured the new crushing plant built between walls of rock--another world wonder.

At last the display of Marquette County rocks at the Chamber of Commerce building has been cleaned, upgraded, labeled, and arranged in sparkling clean cases. Olive Sain and her committee--the Bartellis, Bowns, Laurence Sain and Ray Anderson--are to be commended for a very thorough job. Seventy-five specimens of Marquette County minerals are displayed, and we hope everyone will take the time to look at them. The Board of the Chamber of Commerce voted a vote of formal appreciation to the Ishpeming Rock and Mineral Club for the fine display of local minerals.

Eleanor LaChance and Barbara DePetro have resigned as Club hostesses as they expect to be traveling West this winter. We will miss the fine work these ladies and their spouses have done for us.

Ernie Johnson reported on committees appointed for the Swap on August 6 and 7. He has been busy printing and sending out brochures. It's up to you now to help in all the ways you can to make our Swap a success.

Carl Gutman announced he is opening a rock shop at his cottage in Copper Harbor. The shop will be open weekends all summer. Be sure to call on them when in the area.

Marian and Bob Markert have opened their new Rock Shop in the Brewery Castle, Highway 41, Marquette--next to Detroit and Northern Savings Building and across from

the Holiday Inn. Don't miss dropping in to see them and the beautiful fine displays of everything for the rockhound and appropriate gifts for everyone. We extend our good wishes to Bob and Marian for success in their new venture.

The board meetings for the summer are on the first Thursday at 7:30 p.m. at the Bothwell Middle School for June, July, August, and September. All members are welcome and urged to attend.

Lowell and Dawn Smail are proud new grandparents. They have a grandson, Miles Michael, born June 2 to Melody and Michael Anderson of Minneapolis, Minnesota.

We have had a number of our members hospitalized this spring but find Dorothy and Frazier Tubbs doing well. Ernie Johnson's mother and Jim Bowns' mother are recuperating from heart surgery. Mrs. George Bell is also home and improving. Anna Koivula fell and broke her hip. She's home from the hospital but must use a walker for an indefinite time.

#### Obituary

Fern L. White, a former active member, passed away at Oceano, California, on April 7.

Mildred Jenkins, our social correspondent, died in April. A book will be placed in our Library in her memory.

A sympathy card was sent to the family of Adeline Hudson, another former active member. Her husband, James, passed away March 25, 1976.

We express our sincere sympathy to the families of these three ladies, especially Jim White and Audubon Jenkins.



COPPER IS EASY TO FIND--OR IS IT?  
CAN YOU GET ENOUGH--OR TOO MUCH?

by Faustin Anderson

I've found almost as much copper without a detector as with one. Once you focus your mind on what it looks like in all possible shapes, it's easy. Copper is not red until you scratch it, it's a dirty brown. It's heavy and in rock it generally has protruding jagged knobs which will cut your hands, so wear gloves. Never wet it with your tongue; it may have some arsenic poison that is tasteless.

My most valued pieces are small sizes up to about six inches long and four inches wide at most, all cleaned of rock. They are easy to handle, take less space and look nice. In rock for slabbing, they should have fine grains or a few hairline veins with not much copper or your saw will have trouble cutting it. Never leave your saw while cutting copper rock because too much copper will make your blade vibrate. This will make a poor slab that will take hours to polish. It will also plug your abrasive stone and ruin your polishing disc. A piece of solid copper in the rock will jam the saw blade and stall the motor. Remember, with your first cut you do not know how much copper is there. You could end up with a bent saw or a burned out motor. I've been through it, ending up with two bent blades that always left fine vibration lines. So please do not leave your machine. All my cutting was not in vain. One rock had just the right amount of copper, calcite, quartz, and datolite. It's beautiful--my number one specimen.

Now for enough or too much copper.

A good detector will pick up all the copper you want, and a lot you

do not want. Well, I don't want anymore. Let me tell you why.

On our last field trip to the Copper Country we found some at every mine. Saturday, May 28, 1977, was spent at two mine dumps below Houghton. The temperature was 82° and I was pooped. Sunday we spent north of Houghton at three mine dumps. The temperature was 52° with a cold blowing wind that went right through my summer clothes, again pooped in reverse. Wonder where my happy medium is. This is how I warmed up.

David and Bonita Proper, Lilly and I went to the third dump mostly to find out where it was. We were all digging for about an hour when the Propers decided to leave so we were alone. Lilly was on one side of a rotten log and I was on the other. Between the two of us we cleared a spot about four or five feet wide into the pile. Lilly found a little crystallized copper that she left there. Tiring, she walked away looking over the upper edges where she found a quartz crystal one inch by one and a half inches long.

Meantime, I dug a little more and got a strike. I pulled out an 18 lb. hunk, almost solid copper. I tried the detector on Lilly's side and got a loud sound, moved a foot and it was twice as loud, moved another foot and it was still loud. I was afraid it might be a piece of tin or iron pipe. I cleared away some dirt and pryed with the hammer, and I thought it moved a little. Then I went to the car and got a grub hoe and called Lil. I pryed and she packed dirt under it until we got enough out to put our hands on it. I turned it over--solid copper! Lil wanted to bury it and come back the next day. Tomorrow it will be gone, I said. From the beginning my only thought was, 'after we get it to the car, how do we get it in'. I said to Lil half



a dozen times, "Why, oh why, couldn't it have been half this size?"

David and Bonita, why didn't you stay about fifteen minutes longer? My mind got a good bit of exercise. At least it cleared my head. I thought of everything I knew about moving something and tried to connect it with something I had in the car. Nothing. I have a winch but it was home. I had a chain which we tied around the piece. I pulled, Lil pryed and pulled with the hoe. Three feet and rest, three feet and rest. It wasn't all downhill; some of it was up over the bumps. My only encouragement was that I did not want to be skunked. I had to keep up my reputation for getting the most or largest piece of copper or iron pyrite. Lilly kept asking me to hide it or bury it. After two hours we got it out to the parking spot. I backed the car to it, cleared the trunk, and we lifted up to knee height but could go no higher.

The third time we tried it I took a little over half and tried to get my knees under it but couldn't move my feet. We got an old five gallon pail and got it on the pail. We lifted it two inches above the pail but could not get above our lifting level. I thought of going to the highway and stopping somebody but was afraid to ask Lil to stay alone. I knew from the beginning that we could drag it out to the highway, now that was all we had left. I wrapped the chain around it, put it on a shovel, put the chain through the handle hoping to keep it straight. After about 20 feet it came loose from the shovel and almost ruined the handle. We took the shovel off, cross wrapped the piece, and started off again. We made it half a mile on the road to

the highway, crossed over and stopped.

The good Lord must have been with us because the first car that came along was a rockhound from Lower Michigan. He stopped without being high-balled because he saw us dragging something. He helped us put it in the car. Mr. and Mrs. William Zimmerman, Willow Highway, Grand Ledge, Michigan, can I ever thank you enough for stopping. You are what rockhounding is all about. A bunch of friendly people helping one another. You can bet I gave them something of everything I had in my trading box.

Three and a half hours of heart-breaking work that I will not go through again. There is a lot of copper in those piles and it's all yours--good luck. Needless to say, I was double pooped, but we managed to get something to eat and make McLain park before dark.

Monday, May 30, we went to the Delaware, we picked a spot and dug together. Lil found three small datolite, two pink and one yellow-gray; quarter, nickel, and dime size. By noon we were ready to head for home with a good share of the Copper Country. We stopped in Hancock to say hello to my Aunt Rose and her daughter's family. We showed them the copper. Got a bit cooled off when her son-in-law said, "Too bad it isn't gold." We saw my sister's boy and his boy when we gassed up at the Clark station; he manages it. Cousin Jim was visiting at Palmer, I think we passed at the Klingville Road. Home at 8:00 p.m., tired but not sorry.

Lest I forget, the copper weighed 150 lbs.; the smaller piece 18 lbs. See you on the next field trip. Thanks for listening.

Faustin



MARQUETTE COUNTY ROCK AND MINERAL DISPLAY

by Olive Sain

This spring Al Raymond, secretary of the Marquette Chamber of Commerce, called us about the rock and mineral display which members of the Ishpeming Rock and Mineral Club had set up many years ago. From that time until this year nothing had been done except for the removal of some specimens by those members who had only loaned specimens. Mr. Raymond hoped that the Club or some members would upgrade, clean, and then label the specimens. He said his staff would help in any way to get the job done as they were in the process of housecleaning the building and wanted everything shiny clean for the start of the tourist season.

The Club considered this a necessary and worthwhile project since they had put up the original display but had neglected to keep it in top condition. Due to the approaching tourist season, the Club decided to concentrate on a display of only Marquette County rocks and minerals.

After itemizing the rocks and minerals in the display, we made a list of some of the other specimens available in the county so that the members could check their collections to see if they had any minerals they might donate to have a better representation of minerals found in the county. These specimens are not to be on loan but will become a permanent part of the display. Modest sized specimens rather than cabinet sized are preferred due to the limited space on the window shelves.

A committee was set up to work on the display at the Chamber of

Commerce building. Jim and Dorothy Bowns, Bart and Ingrid Bartelli, and R. R. Anderson assisted Laurence and I at a work bee. Those specimens from other areas were boxed for a future display and stored at the Chamber office. The local material was sorted into cutting and polishing rocks, microminerals, crystalline minerals, and massive minerals. Then we added the newly donated specimens to the three categories. Laurence printed the labels. These were strips of oak tag with the label printed at each end so viewers could read them from outside or inside the building. The rest of us worked on the specimens. We washed a spot with alcohol, applied white typewriter correction fluid, printed on a number in India ink, applied a coat of clear nail polish over the ink and last of all put the same number on the corresponding label. Everyone helped to arrange the display in the window, checking from the outside as well as the inside for good viewing.

It should be a simple matter next spring to wash the specimens and shelves and reassemble the display without having to worry about getting the correct label for each specimen.

We should have many new specimens to add if all the Club members will check the list given below of what is now on display and then the new book "Mineralogy of Michigan" Bulletin 6, to see what others have been found. Although we do have about 60 minerals in the display as of now, hopefully by next spring we'll have at least 75 or maybe even 100 by having the same mineral in different forms and from different collection sites. At the June meeting a fine specimen of Bornite from the Cliff Shaft was brought in. The specimen will be the first addition to display next spring.

continued. . . .



It would be well for each Club member to look over the display at the Chamber building. Perhaps we novices mislabeled a specimen and it should be corrected, or you may have a better specimen than one on display and it should be changed next spring. We learned quite a lot by working on the display and if you are a beginner, you may begin to learn some of the names and learn to recognize them when you see them at quarries or mines.

The display is comprised of the following:

POLISHING

- Agate (Lake Superior, Bacon, Iron Lace)
- Beach stones
- Horneblende
- Jasper
- Jaspilite
- Kona Dolomite
- Magnetite
- Phenocryst (Syenitic porphyry)
- Slag

MICROMINERALS

We put in 6 to 8 specimens from the Ohio Mine, Republic Mine, Imperial Heights, and Jackson Pit.

Crystals include: calcite, hematite, hematite roses, goethite, sammetblende goethite, smoky quartz, manganite, mountain leather and pyrite.

CRYSTALLINE MINERALS

- |                        |            |
|------------------------|------------|
| Axinite                | Hematite   |
| Barite                 | Manganite  |
| Beryl                  | Marcasite  |
| Biotite                | Martite    |
| Calcite                | Muscovite  |
| Epidote                | Pyrite     |
| Chlorite rosettes      | Pyrolusite |
| Galena                 | Quartz     |
| Garnet (aphrosiderite) | (cont)     |

- Quartz with hematite coating
- Phodocrosite
- Staurolite
- Tourmaline (with quartz, pyrite, in schist)

MASSIVE MINERALS

- Asbestos
- Garnet schist
- Goethite (stalactic, botryoidal, golden glint)
- Gypsum
- Hematite (micaceous, grape ore, blue steel, specularite)
- Ilmenite
- Limonite
- Magnetite
- Manganite
- Molybdenite
- Ochre
- Pyrite in quartz
- Selenite
- Sericite
- Siderite
- Sulfur and sphalerite
- Talc
- Timerite

In some cases we did not repeat specimens of polishing in the massive minerals category. Perhaps we should have.

Check your Michigan book for missing specimens such as Psilomelane, Barite, red Garnets (Champion), Dolomite xls, Grunerite, Chalcopyrite, Gold ore, Silver ore, Serpentine (Chrysotile, Crocidolite, Picrolite, Riebeckite, Verde Antique), Aragonite, Rhodonite, Pyrrhotie, Pyrophyllite, etc.

A suggestion was made at the June meeting that each one going out collecting anywhere in the Upper Peninsula should bring back an extra sample of each kind of mineral and label it along with where it was found so that the Club can work on a comprehensive Upper Peninsula display for the Chamber of Commerce building for next spring and also



to add to the county display. Mr. Raymond said the Chamber board will provide cases or whatever we might need to make up the Upper Peninsula display. This will be a good project for the winter months.

Setting up displays in public buildings such as this is an excellent way for us who enjoy the hobby to share it with local people and with the traveling public.

A big "thank you" to all the donors and workers on this project.

#### PETE'S MINES

by Ingrid Bartelli

When Arnold Mulzer says something, you'd better believe it! When introducing his friend (now our friend) Pete Hansen--always spelled with a 'sen' because he's a Dane--as a new member of the Ishpeming Rock and Mineral Club, Arnold made this statement, "Pete Hansen is a railroad man (retired) and knows the location of most of the old iron mines of the county."

Pete grew up in the midst of the mines in the Ishpeming area and spent much of his lifetime transporting ore from those mines.

The Sains (Laurence and Olive) and the Bartellis (Leonard and I) invited Pete to share his wisdom. He accepted our invitation and graciously guided us on a jeep tour to the locations of such mines as the Cambria, Breitung, Lucky Star, Buffalo, Green, Tracy, Mary Charlotte, Ogden, Iron Cliff, Tilden, Winthrop, National, Salisbury, Saginaw, Lloyd, Morris, Barnes and Hecker, Greenwood, American, and Blueberry. The day wore out and so did we before the tour was completed. We are

looking forward to another day to complete the inventory of "Pete's mines."

Occasionally Pete would become dis-oriented by all the new roads, particularly in the Tilden area. At the first railroad crossing he would find his bearings again and come out with such a fact as, "Right here at this crossing we are exactly 97.2 (or some such number) railroad miles from Sault Ste. Marie.

Thank you Pete (and Arnold) for a good day and the anticipation of another (or maybe two?).

#### HEALTH TIPS--KNOW THE DIFFERENCE

##### HEAT STROKE:

Symptoms: Flushed, hot and dry skin, high temperature, dizziness, and headache.

First Aid: Put patient in shade, head and shoulders raised. Sponge with cool water, ice bag (if available) on head. If conscious, give  $\frac{1}{2}$  teaspoon salt in  $\frac{1}{2}$  glass water every 15 minutes, repeat 3 or 4 times. NO STIMULANTS. Get patient to a doctor as soon as possible.

##### HEAT EXHAUSTION:

Symptoms: Skin cold and pale, cold perspiration, may suffer dizziness, nausea, or cramps.

First Aid: Keep patient warm, flat on the back, with head low. Give  $\frac{1}{2}$  teaspoon salt in  $\frac{1}{2}$  glass of water or salt tablets, coffee or aromatic spirits of ammonia. Unless quick recovery, get patient to a doctor.

From Breccia via The Gemrock

##### EDITOR'S NOTE:

I would like to thank all the Club members who contributed articles for this month's JASPILITE. They are great and I hope there will be as many submitted for the next issue



CALENDAR OF EVENTS

- July 21-24 **SHOW & CONVENTION** Midwest Federation Convention and Show, Dayton Convention Center, Dayton, Ohio.
- August 6-7 **SWAP** Ishpeming Rock and Mineral Club Swap, Marquette City Tourist Park, Marquette, Michigan.
- August 18-21 **SHOW** National Gem and Mineral Show, "77 Empire of Gems," Weber State College, Ogden, Utah.
- August 21 **ROCK-O-RAMA** Copper Country Rock and Mineral Club, Coppertown U.S.A. parking lot, Calumet, Michigan.
- August 21 **SWAP** Oakdale Park Shelter House, Oakdale, Wisconsin.
- September 24-25 **SHOW** Livingston Gem and Mineral Society, Howell Recreation Center, Howell, Michigan.
- October 14-16 **SHOW** Michigan Mineralogical Society, Greater Detroit Gem and Mineral Show, Light Guard Armory, 4400 East Eight Mile Road, Detroit, Michigan.
- October 21-23 **SHOW** Central Michigan Lapidary and Mineral Society, National Guard Armory, Lansing, Michigan.

THE BONES OF AN ORGANIZATION

The body of almost every organization has four kinds of bones:

The **WISHBONES**, who spend all their time wishing someone else would do the work.

The **JAWBONES**, who do all the talking, but very little else.

The **KNUCKLE BONES**, who knock everything that anyone else tries to do.

The **BACKBONES**, who get under the load and do the work.

from many bulletins via Rock Trails

Two doctors were discussing brain research. The younger doctor asked "Where do we get the material for research?" To which the older doctor replied, "Doctor brains are worth about \$50 per oz., lawyer brains are worth about \$75 per oz., but a rockhound's brains are worth \$250 per oz." "But why are the rockhound's brains so expensive?" inquired the young doctor. "Do you realize how many rockhound's it would take to get on ounce of brains?" replied the older doctor.

from many bulletins via The Loess Bulletin



SPECIAL ARCHAEOLOGY EXHIBIT

Anyone traveling near Chicago this summer should plan to include a visit to the Field Museum to see the special exhibit of the "Treasures of Tutankhamun" on loan from the Cairo Museum in Egypt.

If you want to check with the Museum, there is a special King Tut telephone number available daily from 9:00 a.m. to 5:00 p.m. (312) 922-5910.

The exhibit features 55 objects from the tomb of Tutankhamun who ruled Egypt for only 9 years between 1334 and 1325 B.C. The archaeological interest is amplified by an appreciation of the lapidary and jewelry making craftsmanship shown in many of the artifacts on display. The exhibit is very informative and very well presented.

from a Midwest Federation  
Newsletter enclosure

POLISHING THE AWKWARD MINERALS

Most of the stones requiring special treatment for a good finish occur in the lower hardness range (Mohs' scale) or contain quantities of softer minerals in their composition.

The Field Museum is located at Lake Shore Drive and Roosevelt Road on the lake front. The exhibit opened April 15 and will be open every day until August 15. Hours are 9 a.m. to 6 p.m. Monday, Tuesday, and Wednesday, and from 9 a.m. to 9 p.m. Thursday, Friday, Saturday, and Sunday. Adult admission to the Museum is \$1.50 (free on Friday), and there is no extra charge for the special exhibit.

In cutting the awkward minerals, which never seem to progress beyond the sanding stages, the fault may lay in the stone itself (and here one must add that inferior material will only produce inferior results), in the choice of polishing lap and oxides, or perhaps in the method of working. The operator must be prepared to return to earlier stages of sanding or adopt an entirely new approach until a satisfactory solution has been reached.

There is no waiting in line to see the exhibit. Numbered tickets are issued for those wishing to see the exhibit, and the numbers that have been called are shown on T.V. monitors located throughout the Museum. In this way other exhibits may be seen while you are waiting for your number to be shown.

Experimentation and persistence are to be commended. One lapidary, dissatisfied with poor results from malachite, went through a range of household cleaning fluids and condiments, added to the polishing oxides, and finally produced a brilliant gloss finish.

After the first full week the exhibit was open, the Museum announced that during the mornings the typical wait is 2½ hours, but that by 2:00 p.m. the wait generally drops to just a few minutes, if any. The average time spent in the exhibit is 1½ hours.

Quartz varieties are, on the whole, very responsive to standard lapidary techniques and present few problems for cutting cabochons or tumbling. The exceptions include moss agate, where the dendritic inclusions break through the surface, but in most cases careful sanding will overcome this problem.

continued. . . .



A similar difficulty may arise with very fibrous Tiger's eye and, when cutting a cabochon, careful orientation of the material can prevent the ends of the coarse fibers thrusting to the surface of the dome.

Jasper, composed of silicious material, colored clay, and sometimes hematite, are susceptible to undercutting. This often occurs in the polishing stage, caused through overheating when a felt disc is used. A leather disc and cerium oxide provide a gentler finish and improve results.

The following short list of stones, arranged in order of decreasing hardness, are frequently the source of frustration during sanding and polishing. The suggested techniques are primarily concerned with cutting cabochons or polishing flat sections through successive grinding, sanding, and polishing stages.

JADE, JADEITE. Hardness: 6½-7

NEPHRITE JADE. Hardness: 6-6½

Varieties of jades present similar problems in the sanding stages, the surface of the stone being prone to roughness and 'orange-skin' texture as the work proceeds. The secret of a good polish stems from patient and meticulous sanding, using a 200 wet/dry disc followed by a 400 disc, with plenty of water coolant. At no time must the stone be allowed to overheat or 'drag' on a dry disc. A third sanding stage is carried out on a well-worn 600 grit disc, commencing wet but gradually allowed to dry. Continue sanding on the dry disc, increasing the pressure on the stone, until a smooth glazing appears on the surface. Complete the final polishing on a soft leather disc, using a polishing solution of chrome oxide.

FELDSPARS. Hardness: 6-6½  
(Amazonite, Labradorite, Adventuring Feldspar (Sunstone), Moonstone)  
Selection of good material provides the surest foundation for satisfactory results with the feldspars. Careful orientation is necessary when considering the cabochon dome and, in some varieties, color and 'schiller' should be evident when viewed from different angles. The pronounced cleavage demands care in grinding and stones should not be subjected to harsh treatment from coarsely grained grinding wheels. Constant water coolant should be applied during grinding and sanding stages, which should be done gradually with gentle pressure. After fine sanding, the stone can be polished on felt with cerium oxide.

LAPIS LAZULI. Hardness: 5½  
Never expect a high gloss polish on lapis. The finish on this material is usually a matt sheen which intensifies the blue, forming a contrasting background to flecks of golden pyrites. Prepolishing stages should be done on wet sanding discs up to 600 grit, with very gentle pressure in the early stages. Polish on a soft leather disc with a paste of chrome oxide, and avoid excessive heat.

OPAL. Hardness: 5½  
A form of hydrated silica which is extremely absorbent and must never be sawn with an oil coolant. Grinding must be done on fine wheels with the gentlest pressure and plenty of water coolant. Sand on fine wet/dry discs and polish with cerium oxide on a felt disc, taking care not to overheat.

OBSIDIAN. Hardness: 5  
Not difficult to polish but the preparatory stages require extra care. This is a brittle material which flakes and fractures easily and will not stand shocks or hard  
continued. . . . .



abrasion. Grinding should not be forced, and should be carried out on 120 and 220 grit wheels. To avoid overheating, a gradual sanding is recommended using loose abrasive grits, 220, 320, and 500 grades, on leather discs. A felt disc and cerium oxide will complete the polish.

#### FLUORSPAR, VARIETY BLUE JOHN.

Hardness: 4

This material breaks up easily and very great care must be taken during grinding stages. The stone should be coated with a pale lemon resin, which is renewed as grinding proceeds. Powdered resin is placed on the stone which is then heated until the resin melts and runs over the surface. The resin treatment is continued through the sanding stages. Polish on leather with tin oxide.

#### SERPENTINE VARIETIES. Hardness: 2-4

These are prone to undercutting and often acquire an 'orange-skin' texture in the final stages, particularly if polished on felt. Sand gradually and, in some cases, the treatment is finished by polishing on a well-worn 600 dry sanding disc. If necessary, further polishing can be achieved on leather with chrome oxide, but beware of any frictional drag which will roughen the surface of the stone.

From GEMS British Lapidary Magazine via GEMS newsletter

#### THE MAKING OF A CABACHON

Select or buy a rock of your liking, either plain or with a design. It can be most any size. A small one for a tie tack, larger for a bola (I am informed that this is the correct spelling) or belt buckle.

STEP 1 - Look it over closely and find the right design in the rock,

cut a corner or a side off or cut half-way through. Then look it over more carefully. Sometimes even a flashlight shining through it may make you change your mind about the rest of the cut. Fractures may show up or the design may change. Now cut a slab of the desired thickness. Some rocks look better with a high dome and some are more beautiful with a low dome, or a small rounded top.

STEP 2 - Pick the size of the cab you want by using a template. (If you don't have one, it can be bought in any rock shop.) Mark your stone with an aluminum pencil. There are some stones that show off the mark better if just a plain pencil is used.

STEP 3 - Now, cut out your cab on a diamond blade saw, just on the outside of the mark you made with your pencil. (This mark will always be on the bottom.) Do not push hard on the rock going through the saw as you may damage your stone or your saw blade. If your stone breaks in half you must start again. You may have missed a fracture while you were examining it.

STEP 4 - On a coarse grindstone, grind your cab round or stay just on the outside of your mark. Then round or dome it to show up the best design or color. TO DOME: Hold your stone on edge and move it briskly around on the grindstone. Meet where you started grinding, then slowly turn away from the edge and repeat - keep doing this until you have worked your way to the middle of the stone.

STEP 5 - If you are working with a very small stone, you may want to use a dop stick. The dop is a green wax that can be bought in any rock shop. Heat both your stone (any stone but opal) and the dop. Put the wax on a rounded stick that is continued. . . .



much smaller than your stone. Lay the stone on a table with the flat or bottom side up, apply wax to the stone. Push the waxed stick and the waxed stone together, packing the wax down hard on the stone. Be very careful so as not to burn your fingers as the wax gets very hot. Let the waxed product cool until the wax is set.

**STEP 6** - If you are using a hard stone, at this point start grinding on 220 sandpaper, still leaving the mark on the back. After it seems to be getting more smooth, start on a 440 sandpaper. Now this must be real smooth, and it should be turned in your hand against the grain of the sandpaper very fast.

Now go to the 600 sandpaper. Now your stone should be starting to take a polish. Be sure all the scratches are out of your stone. Otherwise it will not take a high polish. The longer on the 600 the better.

Now make the mark on the bottom of the stone disappear by rounding the stone on the coarse grinder on the mark exactly.

**STEP 7** - Polishing on a felt pad or a leather pad is okay. You can use tin oxide. The latter seems to work the best on a very hard stone.

Wash in soapy water, then rinse in clear water and dry on a soft cloth using a brush rubbing action.

By Dick Lemmink via the Arrowhead News, Jan., 1977.

### HEMATITE

Hematite is easy to work into lovely stone, but it is dirty to work on, so be sure that you cut

ONLY hematite, and then clean up your equipment. Hematite constitutes an important iron ore occurring in crystals or in a red earthy form. All equipment will have to be cleaned afterwards. Your trim saw will run black or red and so will your grinders and polishing pad. It might help to spray your saw with PAM. PAM will also keep your saw friction free. First, clean the saw blade of all oil and residue then spray. It will also keep your vise friction free.

From the Agatizer via the Gemrock.

### THOMSONITE: MINNESOTA'S HOME-GROWN GEMSTONE

Thomsonite is a very rare opaque stone of gem quality. Colors range from black to subtle shades of coral, pink, red, and white. Circles form "eyes," with dark green a prominent color.

About 90 percent of the world's supply is found on 10 acres of land near Grand Marais, Minnesota, that Harlow M. Tychsen, Sr. bought decades ago for the pretty scenery.

Unlike Lake Superior agates that were dragged far south by glaciers, Thomsonites are found no farther than two miles from the Lake. This indicates that Thomsonite appeared at the surface after most glacial activity was over. . . about 11,000 years ago.

Lava flowed from volcanoes on the Lake shore, with gas bubbles appearing in the lava. Surface water and condensed oxygen seeped down and mixed with other chemicals and acids. Gemstones resulted from the unique conditions, with copper playing a part in the coloration.

continued. . .



Thomsonite was called the "Gem of Many Eyes" by Minnesota Indians and was used for ornaments and trade.

People began hearing about the stones. They became well known to collectors around the world but were relatively unknown to most people in the stone's native area. Tychsen realized he might have something valuable on his land and began doing some reading and experimental mining. He got hooked on the things. He began spending more and more of his spare time at his Lake Superior retreat. (And so did rockhounds; he hired an armed guard to keep away uninvited guests who happened to have a hammer and chisel in pocket.) At the peak, he mined 1,400 stones a day, each one extracted by hand tooling.

He was having fun at it but wasn't much interested in marketing the products. Someone else was. In 1974 Tychsen agreed to sell the land to Jack and Anita Brust, on the condition that he retain mining rights for as long as he lives. They formed a corporation and looked around for a way to market the stones.

The gemstones had attracted attention for years. There was some jewelry around, but it was always in cheap settings. One notable exception: About the turn of the century Diamond Jim Brady owned a set of Thomsonite jewelry. The \$2 million grouping included a ring, scarf pin, watch chain, pencil, shirt stud, five vest buttons, two collar buttons, belt buckle, eyeglass case and pocketbook clasp.

Thomsonites now are being made into rings, pins, necklaces, bracelets, earrings. . . some with diamonds, emeralds and other rare stones.

From the Crystal Cluster  
via the mesabi Media

PINK COPPER - BEARING PREHNITE FROM ISLE ROYALE NATIONAL PARK, MICHIGAN  
by N. King Huber

Pink prehnite, occurring in amygdules in Keweenawan lava flows in Isle Royale National Park and elsewhere in the Lake Superior region, has commonly been misidentified as thomsonite, which it superficially resembles. The pink color of the prehnite is due to internal reflections from finely disseminated native copper inclusions.

Isle Royale has long been considered an important source for thomsonite, a mineral that in the Lake Superior region commonly produces attractive gemstones. Mineralogic studies, carried out as part of a broader geologic study of Isle Royale National Park Service, indicate that material often called thomsonite is actually a pink copper-bearing prehnite. The pink prehnite has a radiating fibrous habit and occurs as amygdules in volcanic flows of Keweenawan age as does much of the thomsonite of the Lake Superior region. Although the pink prehnite superficially resembles thomsonite, it does not develop the spectacular patterns and color variations present in gem quality thomsonite, which explains why "Isle Royale thomsonites" have always been considered to be of inferior gem quality (W. J. Bingham, lapidary, oral commun., 1967).

Prehnite is an abundant secondary mineral in lava flows of the Keweenawan Series in the Lake Superior region. It occurs as amygdule fillings, cross-cutting veins, and as replacement of earlier minerals or rock. Most of the prehnite has the normal pale-green to white color characteristic of this mineral, but where it occurs in amygdules it is commonly light to dark pink or variously mottled in pink and green. On Isle Royale such amygdules occur  
continued. . . .



in flows throughout the stratigraphic section but appear to be especially abundant in amygdaloidal flow tops at only two horizons over 5,000 feet apart stratigraphically.

The prehnite amygdules, which most commonly range in size from  $\frac{1}{2}$  to 1 centimeter, are more resistant to weathering than the volcanic matrix within which they have formed. As a result, the rock outcrops and beach pebbles often have a knobby appearance, the amygdules projecting above the general surface of the matrix. Where the prehnite amygdules weather free from the matrix, they may make up a fair percentage of the fine gravel on beaches near the prehnite-bearing outcrops.

The purposes of this report are to point out that prehnite (on Isle Royale) has previously been misidentified as thomsonite and to present some data on the quantity and distribution of native copper in some pink prehnite amygdules from Isle Royale National Park.

U.S. Geological Survey. Prop. Paper 650-D Pages D63-D68.

(This article was reprinted in its entirety in Lapidary Journal, June, 1975)

via The Michigan Gem News

#### GEOLOGY OF CAVES DESCRIBED

A leaflet describing the geologic nature, origin, and features of caves has been published by the U.S. Geological Survey, Department of the Interior, and is available for public distribution.

The leaflet, written in nontechnical terms, is part of a series of popular publications prepared by the USGS to answer inquiries about

a variety of earth science subjects.

Copies of the 19-page illustrated leaflet, "Geology of Caves," may be purchased for 45 cents each from the U.S. Geological Survey's Branch of Distribution, 1200 South Eads St., Arlington, Va. 22202.

A few "briefs" from the leaflet:

1. A cave is defined as a natural opening in the ground extending beyond the zone of light and large enough to permit the entry of man.
2. Occurring in a wide variety of rock types and caused by widely differing geologic processes, caves range in size from single small "rooms" to interconnecting passages many miles long.
3. The scientific study of caves is called speleology (from the Greek words spelaiion for cave and logos for study). It is a composite science based on geology, hydrology, biology and archaeology.
4. Fragments of skeletons of some of the earliest manlike creatures (Australopithecines) have been discovered in cave deposits in South Africa, and the first evidence of primitive Neanderthal Man was found in a cave in the Neander Valley of Germany. Cro-Magnon Man created his remarkable murals on the walls of caves in southern France and northern Spain where he took refuge more than 10,000 years ago during the chill of the Ice Age.
5. - There are four main types of caves and several other relatively less important types. Most of the caves in the world--as well as the largest--are of the solution type. Solution caves are formed in carbonate and sulfate rocks such as limestone, dolomite, marble, and gypsum by the action of slowly moving ground water that dissolves

continued. . . . .



the rock to form tunnels, irregular passages, and even large caverns along joints and bedding planes.

Lava caves are tunnels or tubes in lava formed when the outer surface of a lava flow cools and hardens while the molten lava within continues to flow and eventually drains out through the newly formed tube.

Sea caves are formed by the constant action of waves which attacks the weaker portions of rocks lining the shores of oceans and large lakes.

Glacier caves are formed by melt water which excavates drainage tunnels through ice.

Caves commonly known as "wind caves," such as the one in Wind Cave National Park, S.D., are named not for the mode of origin of the cave, but for the strong air currents that alternately blow in or out of the cave as the atmospheric pressure changes. Most wind caves are, in fact, solution caves.

The decorative dripstone features in many caves are called speleothems (from the Greek spelaiōn for cave and thema for deposit). When these structures are highlighted by lanterns or electric lights, they transform a cave into a natural wonderland.

The most familiar of the dripstone features in caves are stalactites and stalagmites. Stalactites hang downward from the ceiling and are formed as drop after drop of water slowly trickles through cracks in the cave roof. As each drop of water hangs from the ceiling, it loses carbon dioxide and deposits a film of calcite. Successive drops add

ring below ring, the water dripping through the hollow center of the rings, until a pendant cylinder forms. Tubular or "soda straw" stalactites grow in this way; most are fragile and have the diameter of a drop of water, but some reach a length of perhaps a yard or more.

Stalagmites grow upward from the floor generally as a result of water dripping from overhanging stalactites. A column forms when a stalactite and a stalagmite grow until they join. A curtain or drapery begins to form on an inclined ceiling when the drops of water trickle along a slope.

In deep caves encountered during mining operations, a number of ore minerals have been found in the decorative wall draperies. Most common are azurite and malachite (forms of copper carbonate). About 50 other minerals also have been reported in cave deposits.

From the Department of the Interior News Release, March 28, 1977, via the Michigan Liaison Office, Lansing

#### COLOR IN GEMS

For years the color in amethyst was thought to be due to the presence of manganese. Its color is due to the molecular structure rather than any extraneous included material. The color of amethyst can be altered by heat at comparatively low temperatures. The heat treatment doubtless brings about a rearrangement of the molecules, thus bringing about a change of color.

The cause of color in smoky quartz was also a matter of uncertainty and speculation for many years. It has been shown that the smoky appearance of some quartz crystals is due to

continued. . . .



exposure to radium radiations while in the ground. Quartz crystals in an area where there is an abnormal amount of natural gamma radiation will alter to a smoky color. It has been established that the smoky quartz crystals found in the European Alps will vary in color depending on the elevations they are found. The surrounding rocks vary in radioactivity at different elevations, so the individual familiar with these specimens can tell at a glance the approximate elevation they were found.

Experiments with diamonds and other gem stones has established the fact that the color can be altered by exposure to heavy radiation from radium and X-rays. A certain number of dark-colored, off-colored or colorless zircons will, upon heat treatment, change to that beautiful "electric" blue.

From Flint Chips via  
Smoke Signals

### MICROMOUNTS

Micromounts are permanently mounted mineral specimens which require magnification and illumination for proper observation. They will vary in size from specimens so small they will fit on the point of a pin, to pieces about three-quarters of an inch square. They offer perfection of crystals seldom seen in larger specimens.

There are no specific rules as to how micromounts should be made-- simply choose a specimen, trim, clean, and glue it to a pedestal, mount it in a box and label it. A collector does not need a microscope to work with and enjoy micromounts--a good magnifier will do.

The most useful magnification for viewing micromounts is within the range of 5x to 30x. The x means times, that is, 5x means the image appears to be five times as large as the actual size. A hand or reading lens, both available at most stores, will be sufficient to start you on micromounting.

Micromounts are usually collected as crystallized minerals. Many micromounters begin by collecting minerals in general, but sooner or later they begin to specialize. Many collections contain examples of minerals from a single mine or mining district. A micro collection has many advantages over a collection of large specimens. It requires far less space, costs less, and can contain more rare and crystallized minerals. It is always packaged and can be moved easily and is readily available for viewing and study. Specimens are usually more beautiful, for crystallized microminerals are generally more nearly perfect than larger specimens. Micromounting is the hobby devoted to seeing big but collecting small.

by Marian Parch via THE  
DRIFT via the Little Gem

### A CRYSTAL

A crystal is one of the strangest objects in nature. It is not alive, yet it grows. A crystal attracts the same kind of materials of which it is composed, arranges them with great accuracy in geometrical forms, cements the parts together and holds them. Place a crystal in a liquid or vapor composed of the same ingredients as the crystal, and the process of accumulation immediately begins. If a crystal be broken in two parts and placed in a bath of liquified crystal, the broken surface will be repaired and each part will grow  
continued. . . .



into another crystal, providing other conditions favorable for crystal growth are present.

Even after a crystal has been worn until it is but a rounded grain of sand, it will speedily become a crystal again if placed in a solution containing the ingredients of which it is composed. There is no known limit to the ability of a crystal thus to repair itself and resume its growth.

Under a microscope a crystalline solution can be seen forming into crystals, and it is a wonderful sight. First, innumerable dark spots form in the fluid; they stand still and then begin to move.

IMPORTANT MESSAGE FOR ISHPEMING ROCK AND MINERAL CLUB MEMBERS:

All members who come to the Rock Swap at Marquette City Tourist Park on August 6 must bring a batch of cookies or bars for the Cracker Barrel Session Saturday evening. All bars should be cut and ready to be served.

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Sandra Phillips, Editor  
405 South Rose Street  
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It is soon seen that the movement arranges the spots in straight lines, like beads. The beads speedily coalesce into rods and the rods arrange themselves into layers until a crystal is created.

The process proceeds so rapidly that it is almost impossible to follow it closely.

Submitted by Jerry Kaster  
via the Rockhound Record  
via The Petoskey Stone



1977

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