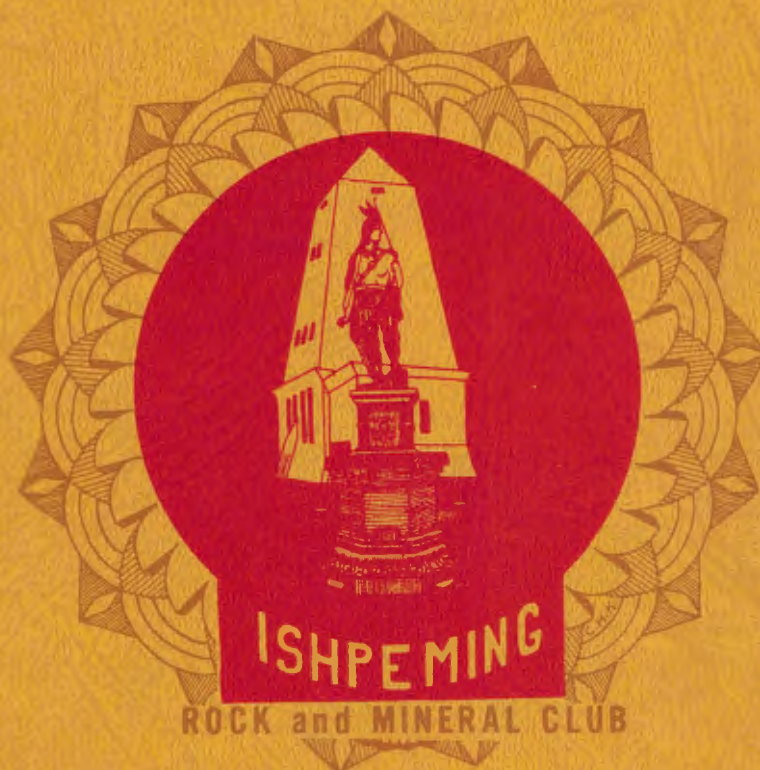


Dec 73

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 - 1973

President	Ernest Johnson	Marquette
1st Vice President	Frazier Tubbs	Ishpeming
2nd Vice President	Carlton Gutman	Marquette
Corres. Secretary	Mildred Jenkins	Ishpeming
Recording Secretary	Helen Johnson	Marquette
Treasurer	Dorothy Tubbs	Ishpeming
Publicity	Pat Elie	Gwinn
Curator	Arnold Mulzer	Marquette
Librarians (books)	Chris & Vern Miljour	Gwinn
Librarians (bulletins)	Edith & Ray Anderson	Marquette
Editors - JASPILITE	Olive & Laurence Sain	Marquette

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

MEMBERSHIP: The Ishpeming Rock and Mineral Club, Inc. is open to anyone interest 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

MATERIAL in this bulletin may be copied provided full credit is given to the author and bulletin.

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.

CONTENTS

President's letter.....2	Geological field trip.....7-10
Secretary's minutes.....3	MWF newsletters.....11-16
Programs.....4	Chlorastrolite.....17-22
Rockin' 'round.....5-6	U.P. Field trip.....23

ENCLOSURE

Dear Fellow Rockhounds:

I hope you all had a Merry Christmas and will have a prosperous new year.

To those of you who put forth time and effort to make the Christmas party a success, I thank you for a job well done.

The program on micro-mounting presented by Carl Gutman gave us an excellent picture of how it is done. For those of you who missed our November meeting, we are trying to re-schedule Carl for a return engagement. The slide presentation of the copper country put on by Frazier Tubbs was a great informational program because it ran from the past up to the present showing in pictures how the industry progressed. To both Frazier and Carl, thank you for two excellent programs.

This may seem a little early with snow still on the ground, but the club is in need of a field trip chairman for the coming summer. This individual would work with club members in setting up field trips for the summer. He would then oversee that all items concerning a field trip are considered and followed through. If any of you are interested in the chairmanship, let me know at the next meeting. It is imperative that this position be filled immediately so that some thought can go into planning the club's field trips next summer.

The club has quite a bit of equipment, etc. stored in various club members' homes and garages. The board would like those club members who have something stored to list all such items in as much detail as possible and give it to one of the officers at the next meeting or mail the listing to me in care of the club. A committee will be set up to review all items to see what should be done with them. The committee will consist of 5-7 members and they will be instructed to come up with several alternatives as far as the equipment is concerned. The alternatives suggested could be: (1) rent, buy or build some kind of building to store the equipment in, (2) sell to the club members all items which could not be stored by club members, (3) continue to do as we are now doing---that is, store all items in members' homes. If you are at all interested in developing procedures for handling club equipment, volunteer to serve on this committee.

We are missing a key to the cabinet at the community center. If you have it, please call me.

Your president,

Ernie Johnson

Your 1974 club dues should be paid as soon as possible. The special page included in this newsletter should be used. Fill out the form and include it with your check when mailing dues to our treasurer.

.....NOTES FROM THE SECRETARY'S MINUTES.....

The November meeting is to be held one week prior to deer-hunting season (usually, then, the second Sunday of Nov.) each year.

Mr. Kiril Spiroff was presented with his honorary membership in the MWF at our November meeting.

The number--1 man's, 1 woman's and 1 for youth's. - *doorprizes*

The Jaspilite editors were authorized to purchase an electric typewriter for their use in publishing the Jaspilite.

The pebble pups will be machine-polishing Kona dolomite at the January meeting under the direction of Frazier Tubbs.

The Christmas party held on December 16 was a success because of the volunteering of the following members: 1. Frazier Tubbs and Bob Markert for making the arrangements at the golf club; 2. Dorothy Tubbs for mailing out postcards to all members and accepting reservations; 3. Vern Miljour for running off the postcards; 4. Mrs. Wester and Mrs. Dunham for the rock-related centerpieces and individual favors; 5. Lyndon Fallat for his slide presentation of his trip to the Carribean scuba diving; 6. Frazier and Dorothy Tubbs for their "mineral quizz" for all members to play; and 7. Laurence Sain for storing the clock for almost two years. The clock was this year's door prize at the party.

Our nominating committee submitted the following slate of officers which were duly elected on December 16 and will be installed on January 20: Ernie Johnson, president; Frazier Tubbs, 1st vice president; Carlton Gutman, 2nd vice president; Dorothy Tubbs, recording secretary; Mildred Jenkins, corresponding secretary; Lyndon Fallat, treasurer; Vern and Chris Miljour, book librarians; Ray and Edith Anderson, bulletin librarians; Arnold Mulzer, curator; and Laurence and Olive Sain, editors of the Jaspilite. Pat Elie will take care of publicity and Marie Wester will be hostess chairman.

The table centerpieces at the Christmas party were won by Marilyn Mulzer, Mrs. Marie Wester, and Mrs. Mary Sarvello.

Lucky winner of the Early American, electric wall clock was junior member, Glen Wester.

WELCOME NEW MEMBERS joining our club since the last Jaspilite. They are:

Robert Phillips 813 N. 3rd St., Ishpeming
Marian Sonderegger(Mrs.) 328 E. Ridge St., Marquette

****Should new members wish to have the 3 previous issues of the club bulletin they can be obtained from the editors who have a few extra copies on hand.

We hope to see you at our meetings and taking an active part in the various doings of this club.

JAN. - MAY 1974 CLUB PROGRAMS

Our meetings are held at 2 P.M., the third Sunday of the month in the Marquette Community Center.

January: The pebble Pups will learn how to use polishing wheels under the direction of Frazier Tubbs. This will begin while the business meeting is in progress. The club program will be comprised of slides provided by club members of their summer outings.

February: Silent Auction with the proceeds going to the AFMS scholarship fund. Members are asked to donate rock specimens, slabs, crystals, etc for the auction and hopefully to bid on and buy some items from the auction table to enhance their own collection. We are fortunate in having Carl Gutman for a return engagement on micro-mounting. Looking at crystals with his equipment is the ultimate in seeing the exquisite creations of nature.

March: The Midwest Federation Slide Show will be presented and narrated by Frazier Tubbs.

April: Ted Trudgeon, Done Roamin' Resort, Ontonagon will be the guest speaker.

May: The club will have a Memorial Day Field Trip to the Ontonagon area led by Ted Trudgeon. He will be with us for the first day and for the next two days we can return to the locations he will have shown us.

HELP YOUR CLUB.....PLEASE VOLUNTEER

Month	Hostesses	Door prizes	Prayer & T. Decor.
January	Bebbi Beerup Eileen Dunham	Ray Boerup	Sheryl Johnson
February	Theresa Bemis Chris Miljour	Joe Dunham Arnold Mulzer	
March	Dorothy Tubbs Edith Anderson	Frazier Tubbs	Wester youths
April	1. _____ 2. _____	Bob Phillips	_____
October	1. _____ 2. _____	_____	_____

A TREASURER'S DREAMS...Nailer

I fell asleep the other night and while I had my snooze, I dreamed each member stepped right up and promptly paid his dues, But when I found 'twas but a dream I nearly threw a fit! It's up to you to make it true Suggestion....PLEASE REMIT!! (Geo-logic via Little Gem)

Rockin' Round



I.R. & M.C.

with Edith Anderson

Doris and Fred Garceau were winners for their beautiful flower and rock gardens in a beautification contest held in Ishpeming last fall.

The Martin Koivulas have announced the engagement of their daughter Vickie to Gary M. Baldini, Maas St., Negaunee. They will be married January 19.

The Robert Phillips, 813 N. 3rd St., Ishpeming are the proud parents of a daughter born in December. What a precious Christmas gift. Congratulations!

The Markerts have opened their new Kona Mobile Park. They can accommodate both travel trailers and mobile homes. They all have complete hookups, including telephone and cable T.V. We wish you success in your business venture.

Lyndon and Fran Fallat moved to a new home on Stoneville Road, Ishpeming. (The executive board are looking forward to the meeting at your house.)

Burton Boyum, a life member of our club, has returned to Ishpeming and living at 1740 Glendora Lane after being in Canada and Australia in connection with his work for the Cleveland Cliffs Iron Co.

Many of our members have been travelling and visiting their families before and during the holiday season including Bob and Mary Schenk who went to Las Vegas; they got in a little rock collecting, too, bringing home some swirl agate. The Dunhams visited their family in the East and the Bells were combining visiting their family in the mid-west and then having a rock hunting trip in the southeast if the gas situation permitted.

Carl Gutman has been elected chairman of the American Revolution Bicentennial Commission to plan a Michigan celebration in 1975.

.....Rockin' 'Round...

Our sympathy is extended to Ruth and Jarl Kivela in the passing of Ruth's mother, Mrs. Alina Peterson of Negaunee.

We extend sympathy to Carl Lemin in the death of his sister, Mrs. Anna Magnusson, Hibbing, Minnesota.

Mrs. Audubon Jenkins, Deer Lake, Ishpeming, telephone 486-4565, our corresponding secretary will send cards to our members in case of illness, congratulations, distress, death, etc. Please help by calling her if you know of any member we should remember.

We have had a lot of illness among our club members since our last Jaspilite and we hope that by the time this issue reaches them they have recovered and enjoy good health again. Pat Elie had major surgery at Mayos in November and is back home and doing very well.

Adeline Hudson has had eye surgery since our Christmas party. She is home now and is fortunate to have her sight but she says she must be very quiet and careful.

Laura Maynard was too ill to attend our Christmas party and finally had to spend ten days in the hospital to recover from the flu. She is home now but still very weak. Her sister is visiting her at present and is a big help to Rufus.

Arnold Mulzer, George Bell, Joe Dunham and Laurence and Olive Sain attended the Community School rock and mineral classes. They say it was very helpful and are looking forward to the next series that will be on the geology of Marquette County. Hopefully this will be held in the spring and summer so that it can include field trips.

Is your Lapidary Journal subscription due? Mrs. Dorothy Tubbs, 1710 Glendora Lane, Ishpeming will send in your subscription for you and the club can keep \$1.40 for the club treasury. The cost to you is the same. So don't send them in yourself; go through your club so they can benefit from your subscription. Bring your subscription notice to a club meeting with the price of the subscription \$5.75.

Start picking over your surplus rocks from your collection and bring them to the February meeting for the auction held each year the proceeds of which are sent to the AFMS Scholarship Foundation. Also bring your Betty Crocker coupons.

 JUNE 13-16, 1974**MWF - AMERICAN SHOW*****Lincoln, Nebraska****

1. The campgrounds at the Fairgrounds will take care of 400 or more campers. 200 or more campers can have hook-ups. Reserve early!
2. The dealers will be located in the grandstand; competitive, non-competitive and state displays in building A--the Exposition building. The Open Air Auditorium will be for swappers and other activities. The Administration Building will be the headquarters and for slide shows, lectures, Judge's rooms, etc. Wholesalers in the 4-H Bldg.
3. Biggest problem--GASOLINE situation. Try to form car pools, or try to get together with others in your district and charter a bus.

A GEOLOGICAL FIELD TRIP---with Wayne Henderson (George Bell)

July 14 we left Marquette about 5 A.M. to meet Wayne Henderson of Holt, Michigan who was our Geological guide and leader and also other rock-hounds from Lower Michigan planning on taking the trip around Lake Superior. Our meeting place was the parking lot on the St. Ignace side of the Straits. While we were there Wayne Henderson explained the geology of the surrounding area. We left about 10:30 A.M. for a seven day trip along the north shore of Lake Superior.

We got to Bell's Point on Highway 17 about noon and had our lunch in the park. From there we all left on a rock field trip in a caravan of twelve vehicles and twenty-five people. To get to where the Algoma Jade or Greenstone or Puddingstone could be found we had to drive about 30 miles on back roads; the last quarter mile was over a very bad road so that the cars had to be left behind. Some people had to walk while those having a jeep, truck, etc. were able to drive through. We returned to Bell's Point Trailer Park at dusk.

Sunday the 15th we continued west on Highway 17, making our first stop at Chippewa Falls Harmony River where we got a few granite rocks and Henderson explained about the Keweenaw lava flows and their gentle sloping toward Lake Superior. The patch of lava is most interesting not only because it controls the site of the falls but also because of the features it exhibits and because of its relationship with the granite. The lava flow is dark in color and basic or basaltic in composition. It crystallized from a liquid magma which, before eruption contained abundant water vapor and other gases. When this magma poured out over the surface, these gases escaped rapidly and in so doing left the lava riddled with rounded bubble holes or vesicles. Subsequently, these vesicles became filled with secondary minerals such as dark green chlorite and pale green epidote and the resulting rock became crudely spotted in appearance. Because of the geological conditions controlling the bedrock formations and the scenic attractiveness, there is little doubt that Chippewa Falls is one of the most interesting locations along the north shore.

We drove on to the Montreal River where it flows through a steep-walled canyon about 100 feet deep and unusually narrow. The walls of the canyon consist of hard granite, whereas in the river bed one finds a tabular shaped body of black diabase. This diabase is in the form of a dike that extends along the river bed below the bridge and dips or slopes steeply to the north at the same angle as the canyon walls. There is little doubt that the canyon resulted from more rapid erosion by the river of the diabase dike than of the enclosing granite. A power plant was built at the base of the canyon and here the group stopped to have lunch at noon.

We proceeded to the Ranwick Uranium Mine where demonstrations are given in the use of the geiger counter for Uranium prospecting; also tours of the underground mines.

Our next stop was at Agawa Rock-Indian Pictographs. A short access road on the west side of Highway 17 leads to a parking lot from which a short rugged and picturesque trail leads to Agawa Rock. This rock

.....next page....

.....Geological field trip..

rises a sheer 100' above Lake Superior. Along it's base are 35 Indian rock paintings. A few of us got to the first paintings but couldn't go any farther because there was a storm on the Lake. Our last stop of the day was ~~the~~ Wawa where we camped for the night.

The morning of July 16th, some of us went uptown in Wawa while Wayne Henderson went to the Helen mine to make arrangements for a tour the next day. In the afternoon we all went to Michipicoten Falls on the Magpie River; referred to locally as High Falls. It is easily accessible by car but the route is poorly marked. The turnoff is one mile south of the Wawa turnoff on a gravel for 0.2 miles and then proceeding once more to the right along a single-lane road for 1.7 miles.

The falls has a height of 70' and a width of 150-200 feet and is the most spectacular physiographic feature in the vicinity of Wawa. The reddish granite at the falls is porphyritic; being made up of large crystals of phenocrysts of quartz in a comparatively fine-grained matrix. This phenocryst is known locally as "tapioca" rock. The downstream course of the river curves abruptly at the base of the falls and flows southwest almost at a right angle.

We next went to the Silver Falls also known as Mission Falls on the Magpie River. They are made up of three small but picturesque waterfalls. The lower falls is 20-30 feet high and is about 100' south of the bridge and is best viewed from vantage points on a trail extending along the east bank of the river. The middle falls with a 15-20 foot drop is about 500' north of the bridge and can be viewed from the road. The upper falls is about 20-25 feet high and is a short distance farther upstream and can be reached by a good trail along the west bank of the river. The rocks exposed at the three falls are a hard, fine-grained, grayish-green lava.

We drove on up the road to Michipicoten beach which is about a half mile long and lies between two rocky headlands where hard ancient volcanic rocks project into the bay. The beach is covered with clean, granular quartz sand. From here we went to the harbor where the ore loading docks of the Algoma Steel Corporation Limited are located, and then drove on to the Ojibwa Indian Reservation. As we drove along, we stopped to look at an outcropping of boulder conglomerate that was of early precambrian formation and contained pebbles, cobbles and boulders of granite porphyry. We drove on to the beach at the end of the road where the sands, if magnified, show many types of crystals. On the way back to Highway 17 the group separated for the evening.

Wednesday, July 17th turned out to be a cloudy day but we all made the trip arranged by Wayne Henderson to the Helen Mine and the sintering plant. We all got core samples, as well as specimens of pyrite and siderite. We had to cut our tour short as it turned cold and started to rain really hard. The guide at the mine told us that the sintering plant was for extracting iron and to burn the sulphide from the ore. All that is left after the process is sinters. The ore is pyrite and pyrohotite from massive sulphide deposits.

While the rest of the group went back to pick up their tents, campers

.....next page.....

.....Geological field trip.....

and trailers, my wife and I drove on to Ney's Park where we all were to camp for the night. It was still pouring when we checked into the park. We picked out site and then left about 4 P.M. to get some syenite granite back up the road near Marathon although we still were in a steady downpour. We didn't stay long at the rock cut and on the way back to camp stopped in at a gas station. While I was being waited on the woman asked me if I was a rockhound and when I said, "yes" she said she was one also so we started to swap rocks. She told me that she would show the group where there was another deposit of collecting rocks. I told Wayne Henderson what she had said and then left for supper. Later, about ten of us met at her place for a rock talk exchange. After she closed the gas station, she took us about 5 miles up a side road to where the rocks were.

We were awakened about 5:30 A.M. on the 18th by a cloudburst. All the tents flooded out in 3 or more inches of water. That's the way the day started! About 8 o'clock it slacked off enough so we could have breakfast and break camp. We stopped to speak to Wayne Henderson about going up to the rock cut that we had been shown the night before and were followed by some members of the group. It was still pouring and lightning as well as being windy and foggy. I went after the large rock I had seen the night before while the others gathered samples of the rock. Some of us then left for Nipigon while others stayed at Ney's for the rest of the day.

We drove about 50 miles west before getting out of the bad weather. The sun began to shine and it turned out to be a beautiful afternoon. We rented a cabin, had supper and then took an evening drive out to a new amethyst mine which didn't impress me. It was dark by the time we got back to our cabin.

July 19th we spent most of the morning sight seeing while waiting for Wayne Henderson and the rest of the group to come back to the trailer park; our meeting place for the afternoon field trip. After lunch we all drove about 13 miles to a scenic lookout about 900 feet above Lake Superior. We were able to see for miles across Nipigon Bay to the offshore islands. The hills along the highway at the lookout were typical masses with a diabase sheet of rather coarse-grained rock consisting largely of the minerals pyroxene and feldspar. The outcrop boundaries were sheer cliffs 300 feet or more in height.

Our next stop was to get some Indian pipestone rock and then we went back to the park for supper and some visiting. We all gathered around a table listening to a timber cruiser telling about the history of the Indians and the French trappers.

We left Nipigon on July 20th and drove 28 miles south on Highway 17. Then we turned right and drove 6 more miles on a gravel road to get to Quimet Canyon which is reported to be 500 feet wide and over 400 feet deep. The rock in the canyon is diabase. Because here as elsewhere in the district the diabase occurs as a thick flat sheet and because the two walls of the canyon have the same elevation, there is little to indicate that any displacement of rock masses occurred. It seemed simply a deep erosional depression carved out of the diabase along a large

.....next page.....

.....Geological field trip

crack or joint by the action of glacial ice and running water.

We left the canyon to travel on to the Amethyst mine on East Loon road about 4½ miles off Highway 17. On the way in is a sign "no trailers beyond this point" because of a very steep hill. Just beyond the top of the hill is another sign about 6 x 8 feet saying "This is God's Country. Please don't burn it to Hell". At the mine you are allowed to do your own digging but pay 35¢ a pound for what you take. It is a large mine; one part being closed to the public. The rock consists of pink granite, rounded and smoothed by glaciers that once passed over the area. During a period of earthquake activity the granite shattered; fault zones were formed and later became filled with hot liquids from which white and purple quartz crystallized. Amethyst is a variety of quartz. The veins vary in width and depth; some are filled solid with quartz and some have cavities or vugs lined with the purple crystals. Mining operations continue throughout the summer months.

We all did some digging and highgrading of what was on the surface so that we all ended up with some beautiful amethyst before leaving the mine. By this time some of our party had left for their homes but the rest of us drove on to a KOA campground near Thunder Bay.

July 21, we went about 2 miles west on Highway 17 to the first scenic lookout and parked our cars. We walked down the highway about 400' to a big rock cut to dig for chert.

Our next stop was at Kakabeka Falls which is about 18 miles west of Thunder Bay. The falls has a crest width of over 200' and a near vertical drop of 128 feet. Some people call it the "Niagara of the North". The chert-carbonate above the shales has prevented the scouring. Because the underlying shales wear away at a faster rate than the chert-carbonate, the latter tends to be preserved as a projecting lip thereby maintaining the sheerness of the escarpment. We walked across a bridge to get a better view of the falls and to take pictures.

After lunch in the park near the falls, we followed our leader to Whitefish River which is on Highway 588 about 1.8 miles west of Nolalu. We stopped near a bridge to pick samples of carbon-chert. Our party then returned to the KOA campground. My wife and I notified our leader that we would be leaving the group to go on to Thomsonite Beach, Minnesota. That left only 4 cars at the campground. Their schedule was for a weiner roast that night and a trip to the Middle Falls Park the next day which would be the breaking up point of the trip.

This type of field trip was a new experience for me and my wife; an enjoyable and educational trip as well as seeing beautiful scenery. Our leader really knew his stuff and the members of the group were great fun to be with. We had a swell time being with such nice people. Can recommend this type of trip to everyone--rockhound or not.

George Bell

REMEMBER!!!!!! DUES ARE DUE. USE ENCLOSED FORM TO SEND IN YOUR DUES!!

Midwest Federation's 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 P. O. Box 1130, Des Moines, Iowa 50311



Issue No. 138 - October 1973

Executive Committee Meets Nov. 3rd

MWF President-Elect, Mark Harris, has announced the fall meeting of the Executive committee will be on Saturday, Nov. 3 at Hammond, Ind. The Howard Johnson Motor Lodge will be the site of the meeting.

Installation of the new officers elected at Cincinnati, Ohio in July will be a feature of the meeting.

Complete information will be mailed to all committee members.

Will Rewrite Operations Manual

A committee headed by Russell MacFall will rewrite the MWF Operations Manual. It has been sometime since the manual was updated and it has been out-of-print for many months.

Committee chairman will have the opportunity to contribute to the manual as to their duties and respective responsibilities.

1973-1974 MWF OFFICERS TAKE OFFICE NOV. 1st

President
Mark Harris, 607 Marion Dr., Columbia, Mo. 65201

First Vice President
Terry Huizing, 5341 Thrasher Dr., Cincinnati, O. 45239

Second Vice President
Howard Taylor, 910 New Hampshire, Lincoln, Neb. 68508

Secretary
Miss Jean Reynolds, 107 Tuttle Ave., Clarendon Hills, Ill. 60514

Treasurer:
Mrs. Joseph MCloskey, P.O. Box 527, Elm Grove, Wis. 53122

Error Found in Uniform Rules Orange Book

"A proof reading oversight has been found on page 14 of the new Edition of the AFMS Uniform Rules (orange book). The last two lines (three sentences) should read: See Rules 7.5. and 7.6. Duplication is also restricted for these classes. See Rule 7.7 (a).

"The AFMS Uniform Rules Committee welcomes having its attention drawn to any other such oversights that might be found and thank you for your attention and concern."



Johnny Horizon says

**THIS IS YOUR LAND
KEEP IT CLEAN**

Cincinnati trophy winners

Sixteen of the twenty-one available trophies were awarded for competitive exhibits at the MWF Show at Cincinnati in July. The Uniform Rules Committee feels that the quality of exhibits showed a marked improvement over previous years. The winners listed below are to be congratulated as the competition was very tough.

1. Minerals
Carlton M. Davis, Columbus, Ohio Columbus Rock and Mineral Society.
2. Miniature Minerals
John C. Medici, Dublin, Ohio, Columbus Rock and Mineral Society.
3. Thumbnail Minerals
Carlton M. Davis, Columbus, Ohio, Columbus Rock and Mineral Society.
4. Micromount Minerals
Bruce Lauer, Villa Park, Illinois, Earth Science Club of Northern Illinois.
5. Minerals, Jr. Group
Mark Lytle, Cincinnati, Ohio, Cincinnati Mineral Soc.
7. Cabochons
David B. Miller, Flint, Michigan, Flint Rock and Gem Club
8. Specialized Lapidary
Donald Diller, Fort Wayne, IN, Three Rivers Gem & Mineral Society.
11. Fossils
Betty Crawford, Mansfield, Ohio, Richland Lithic & Lapidary Society.
12. Fossils, Jr. Group
Bruce Kreis, Ada, Oklahoma, Richland Lithic & Lapidary Society
13. Jewelry & Metal craft
Janet Diller, Fort Wayne, IN, Three Rivers Gem & Mineral Society.
14. Educational
Fred A. Bermke, Milwaukee, Wis., Wisconsin Geological Society.
15. Educational, Jr. Group
Chris Claybaugh, Cincinnati, Ohio, Cincinnati Mineral Society
16. Society
Columbus Rock and Mineral Soc., Columbus, Ohio

17. Jr. Society
Cincinnati Mineral Soc., Jr. Club, BSA Troop 634, Cincinnati, Ohio
18. Archaeology
Glen R. Hanning, Huntsville, Ill., Siloam Springs, Earth Science Club

19. Minerals, Personally Collected
John C. Medici, Dublin, Ohio, Columbus Rock and Mineral Society.

--Barney Parr, Uniform Rules Chairman

Bulletin winners

The following were the 10 top bulletins at the Cincinnati show. In addition the top 3 one and two page bulletins which were judged in a separate category.

First: Mr. Ellis Courter, editor "The Conglomerate", Michigan Mineralogical Society.

Second: Mrs. Norma Miller, editor "The Pick and Shovel", Lincoln Gem and Mineral Club, Inc.

Third: Mr. Willard Lamb, editor "The Pyriter", Dallas County Rock Club.

Fourth: Mrs. Betty C. Rasmussen, editor "The Niagara Ledger", East Central Wisconsin Rock and Mineral Club, Inc.

Fifth: Mr. Willis D. Smith, editor "The Geode", McDonnell Douglas Gem and Mineral Society.

Sixth: Miss Marcella Langfeld, editor "The Pick and Dop Stick", Chicago Rocks and Minerals Society.

Seventh: Mrs. Helen Beck, editor "The Earth Science News", Earth Science Club of Northern Illinois.

Eighth: Mr. Arthur Ferguson, editor "The Glacial Drifter", Grand Rapids Mineral Society.

Ninth: Mrs. Joyce Hanschu, editor "The Rockpile", Midwest Mineralogical and Lapidary Society of Dearborn.

Tenth: Mrs. Renie Love, editor "San Script", Duneland Rock Club, Inc.

One and two page category:

First: Mrs. Carroll Pike, editor "Pebble Prattle", White River Gem Society, Inc.

Second: Mrs. Elsie Popejoy, editor "The News", The Cornbelt Lapidary and Geological Society.

Third: Mrs. Ruth E. Davis, editor "Central Missouri Rock and Lapidary Club, Inc Newsletter", Central Missouri Rock and Lapidary Club, Inc.

Barney W. Good, Chm.

Midwest Federation's 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 P. O. Box 1130, Des Moines, Iowa 50311

Issue No. 139 - November 1973

Council resolutions

The two following resolutions were adopted by the M.W.F. Council at its annual meeting at Cincinnati, Ohio on July 28, 1973.

Resolved that:

The Board of Directors of the Midwest Federation of Mineralogical and Geological Societies, as defined in said Federation's By-Laws, be granted, as of this date, the authority to censure those Member Societies that knowingly and willfully violate the terms of a collection permit granted to a Member Society by a property owner, by the following method.

Upon receipt of a formal, signed complaint of permit violation from a property owner, the Board of Directors of the Midwest Federation shall instruct the President of this Federation to officially inform such offending Society by Registered Mail, Return Receipt Requested, of the receipt of such complaint and request that the Society take such action as necessary to censure the offender or offenders, and request that the resultant action be recorded and that a copy of such action be supplied to the President of this Federation.

Should no action occur at the local level, the Board of Directors shall present the name of such offending Society to the Delegates at the next Annual Council Meeting with the recommendation that named Society be placed on probation for one year and if satisfactory local action has not taken place within that period, appropriate action would be taken at the next Delegate Council Meeting.

Resolved that:

The Midwest Federation of Mineralogical and Geological Societies will not support, either directly or indirectly, commercially sponsored private gem and mineral shows which are for private gain.

Welcome new members

RANDALL ROCKHOUNDS
Pres. Mr. Albert Adam
Bristow, Nebraska 68719

ROCK HOBBY CLUB (Dealers Association)
Pres. Mr. Charles M. Ozment
2441 Ackerman Avenue
St. Louis, Missouri 63114

Junior activities

As the time approaches to elect new club officers and appoint new department chairmen, the Junior Activities Committee would like to ask all clubs that have young people among their membership to appoint a Junior Advisor, Director, Co-ordinator, or representative, (an adult member of your group interested in the youth) for the coming year. Please send the name of this person to Mrs. Jack Dare, 335 Porter Street, Salem, Ill. 62881.

Most clubs support the Scholarship Fund to aid young people unknown to them. Our committee needs your help to encourage the youngsters in your own club.

AFMS NEWSLETTER HAS NEW EDITOR

Wilma Bonar of Route 1, Box 331, Odessa, Florida 33556 has been appointed editor of the American Federation Newsletter by AFMS President Mrs. Dorothy Lee. Mrs. Bonar will replace Russell MacFall of Evanston, Ill. who has retired.

Attention... New Program Chairman

The MWF has a new Program Chairman... All requests for programs should be sent directly to him. Please be sure to include the program fee and the exact and complete address to which you want the program shipped. Also, give a choice of programs and alternate dates so that you will be sure to have a program for your meeting. Order at least 30 days in advance as programs are popular and are booked well advance. Send your requests to...

DONALD STINNETT, 29462 Aspen Drive, Flat Rock, Mich. 48134
Telephone 313/782-3293

More about mine closings

by Leon Maxwell

We have read several bulletins who repeat reports of closing of collecting areas. When you see six reports of the closing of one site, you are inclined to think of it as more than one. Do not be misled. There have been closings, but not as many as you have heard, because of duplication.

One of the closings which has occurred was related to us by the Club in Ishpeming, by Frazier and Dorothy Tubbs, telling of closing of mine dumps in the Keweenaw Peninsula of Michigan's U.P. This was caused by a few students at MTU, and certainly was not by a Rock Club - nor were they representing the MWF.

One of the finest articles we've seen is from the December '72 Kenosha, Wisc. Gem and Mineral Society bulletin, the "Blab & Slab". It is entitled "Let's Think About It", from The Rock Tablet.

It's not possible to reprint the article here, but may we quote - "We wonder if industry is aware that many of their employees are serious rockhounds. Some of these people act as guides to these locations, and are often as knowledgeable about that particular ore body as many geologists. It would seem good public relations to allow some former trusted employees to lead groups to the less hazardous portions of the inactive mines. Why couldn't Universal Oil permit groups to selected locations? A group of twenty rockhounds contributing a dollar per person would seem to be a fair daily fee for services of some of the unemployed miners in the UP.

Rockhounds and touring groups of students do have to eat and sleep. Certainly the economy of near-by communities is affected. Maybe the communities of Calumet, Houghton, Hancock and others could consider the impact of this notice.

It seems then from our analysis that this is not a matter of who is to blame, or who is right or wrong, but rather why can't we sit down together and discuss the situation. When dealing with reasonable people, there is a reasonable solution - and no one is asking for a Federal Grant or a local bond issue, just a few minutes time. We' have met very few industrialists, geologists, or rockhounds who would not listen to reason and abide by a reasonable decision. LET'S THINK ABOUT IT!"

Winifred Reutter of White River, S.D. writes in the December '72 - "Points of Interest": "It all adds up to the rule I have stated so many times before: as a common courtesy, everyone should ask the owner before hunting any place. The National Grasslands are still open to the public but not to litterbugs or careless firebugs. If we don't use our good manners we will lose our hunting privileges. If you hunt on private land, check in and out with your host and give them your thanks and perhaps a small gift of appreciation."

"We are known by our actions. If we are seen at some time by our own or other children taking risks, breaking laws and not being good citizens, they will follow our examples."

We need to cultivate our relationship with mine owners, get them to have releases from liability for us to sign, and not collect to sell! At least by the truck load! (If that turns them off).

Midwest Federation's 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 P. O. Box 1130, Des Moines, Iowa 50311



Issue No. 140 - December 1973

All American Club Awards

by June Zeitner
MWF Merit Awards Chairman

You may be eligible for an award as an ALL AMERICAN CLUB for your accomplishments in 1973. On pages 9 and 10 of the November AFMS Newsletter you will find the form for your club to send in. The deadline for entries this year is March 31st, but the sooner after January 1st you send your entries, the more time the judges will have to learn just how good your club really is.

It is important for every club to take part in this AFMS program. Your club is an educational organization, a community service organization, an art group, a science group, as well as the most useful type of recreational society. The public, the government, the media and other clubs should know the great things you are doing. As AFMS All American Chairman, La Docia Ellis, says, "Toot your own horn. Brag about your club!" By informing us of your activities, you will help promote an excellent public image for Midwest and AFMS at the time it is most needed. Please, even if you don't think you have done enough to win, send us the entry with some pictures, clippings, programs, show bills, bulletins, scrap books and whatever you can.

In the past the Midwest clubs have received much excellent coverage for their original and outstanding work. Publishing books, working with the blind and handicapped, helping museums, schools and libraries, and preserving collecting localities are just a few of your services which have helped the Midwest and brought recognition to our hobby. One year almost a third of our club entered the Merit Awards contest, the predecessor of the All American Awards. I think we can do even better than that!

See that someone from your club is appointed at once to get things ready to mail to me soon after January 1st. If your club does not have a November AFMS Newsletter contact Haydon Peterson, Box 1130, Des Moines, Iowa 50311. If you have any questions about your entry, write to me directly. In a future issue of the Midwest Newsletter, I will list the judges. Please take part. Win a trophy at the AFMS banquet in Lincoln, Nebraska next summer!



Retiring President's message

Not too long ago, I was asked "What prompted you to become President of the Midwest Federation?". This was the easiest question I have been asked in the last five years simply because the answer is so obvious. Where else could you find so many worth-while people as there are in the earth science hobby area.

I must admit that there was a bit of apprehension involved prior to this year. At the same time, I was looking forward to it. The opportunity of being able to contribute something to the members of this Federation as limited as it may be was actually the motivating force. When one considers the high standard of character of the membership, the effort is most justified.

The response from member societies and individual members along with your moral support has been deeply appreciated. The cooperation received from the Executive Committee has been excellent, and I could not think of a better group of officers to work with than those of this past year. This has been a most wonderful year!

The Midwest Federation is a healthy, growing organization and with everyone working as they have done in the past, there is no reason to doubt its continued health and growth. The next year will see improvement over the past, and this is as it should be. New ideas, new methods, and new people are all essential to progress. The Midwest Federation will be guided by the very capable and qualified Mark Harris. With our well deserved support, this coming year will be something to look forward to.

To each and every one of you goes my heartfelt thanks for making this year the most outstanding of my life.

Most sincerely, Lee M. Kirby, Past President, MWF



The Place to Go in '74.....
NATIONAL GEM & MINERAL SHOW

JUNE 13-16 - LINCOLN, NEBRASKA

WE LEARN BY EXHIBITING

by Floyd N. Mortenson

Not too many years ago I can recall when the usual Gem & Mineral Show portrayed the substance of our efforts in the hobby in various and devious ways. Inasmuch as the majority of people were rather inexperienced in display technique, the exhibits in many instances were what might be called "crude". Nevertheless, they must have been at least partially effective as these early shows played an important part in attracting others to join in the world's most delightful and satisfying hobby which has enjoyed such phenomenal growth in recent years.

Many exhibits in the early days consisted of a spread of minerals, gems and jewelry on an open table to be viewed by the public. This sort of exhibit is probably satisfactory if the items exhibited are indestructible or if someone stands watch to see that nothing is carried away by "light fingers".

The use of "store-type" cases gave the exhibits better protection where valuable gems and jewelry and delicate and fragile mineral crystals were on display.

The need for bringing about improvement in national, regional and local shows made it necessary to develop procedures which would provide incentive to enter competitive exhibits. Many local shows promoted these competitive affairs and throughout the nation we had as many sets of judging rules as we had shows (and judges). Pity the poor judges in these pre-uniform rule days. Some had no rules to guide them and had to make up their own as they went along. Others, where rules existed, found that the rules varied from show to show and the bewildered exhibitor never knew what was expected. I well recall being in these situations many times, and it was no fun.

At first the regional and national shows established competitive types of exhibits for minerals only and between member societies only. Later on this was expanded to bring in individual members of the member societies. The rules as then used were naturally developed to meet the particular needs of each show.

It soon became obvious that this hodge-podge of local rules should be superseded by a set of uniform rules which would make it possible to apply judgement on the exhibit against an established and agreed upon standard of excellence that could be accepted and used nation-wide at all federation and local shows. Also, that these rules should be expanded to cover not only minerals, but should provide classes for lapidary, jewelry, fossils, educational and other phases of the hobby.

The work necessary to bring about the first set of Uniform Rules was monumental and required the services of many dedicated and experienced people. In 1959, after several years of work and study, the first American Federation Rules Committee was officially appointed. Out of compromise and cooperation the first A.F.M.S. Uniform Rules were adopted and first used at the A.F.M.S. Show in Miami, Florida in 1961. All six of the regional federations have since adopted the A.F.M.S. Uniform Rules.

Over the years the original rules have been modified from time-to-time and with the cooperation of all who have written in suggestions the Rules Committee, after much debate and study, have come up with a good workable set of Uniform Rules.

CLARIFICATION

In our September issue we carried a story about the State of Nebraska publishing field guides which could be purchased for 10 cents by writing to the Conservation and Survey division of the University of Nebraska, Lincoln, Neb. 65808.

In the same story two handbooks were mentioned, "Record in Rock" and "Minerals and Gemstones". Orders for these handbooks have been received by the University with remittance of only 10 cents for each book. These handbooks are priced at \$1.00 each and when ordering your remittance should be \$1.00 for each handbook ordered. Only the field guides are priced at 10 cents each.

Officers installed

On Saturday, Nov. 3 in Hammond, Ind. at the Howard Johnson Motor Lodge the new officers of the Midwest Federation for 1974 were installed. The occasion was the annual fall meeting of the Executive Committee.

Those installed were Mark Harris, president, 607 Marion Drive, Columbia, Mo. 65201; Terry Huizing, first vice president, 5341 Thrasher Drive, Cincinnati, O. 45239; Howard J. Taylor, second vice president, 910 New Hampshire, Lincoln, Neb. 68508; Miss Jean Reynolds, secretary, 107 Tuttle Ave., Clarendon Hills, Ill. 60514; Mrs. Joseph McCloskey, P.O. Box 527, Elm Grove, Wis. 53122.

Complete minutes of the meeting will be sent to all members as soon as ready.

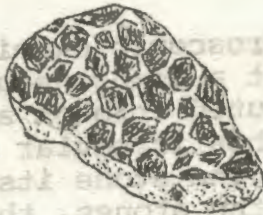


Johnny Horizon says
**THIS IS YOUR LAND
KEEP IT CLEAN**

Of course, there is always room for improvement and procedures have been provided whereby suggestions (in writing) to the Society Rules Chairman can be forwarded to the Regional Rules Chairman for presentation and consideration at the annual meeting of the A.F.M.S. Rules Committee.

A salute and a thank you to these hard working rules people for doing a difficult job. Notable improvement in the quality of exhibits in show has resulted from the use of this guide to a standard of excellence.

Many society members do not realize that by studying and applying these rules in setting up an exhibit, they can learn so very much about the hobby and have a better understanding of the particular branch or phase which appeals to them personally. It makes no difference whether they enter an exhibit competitively or non-competitively. They will automatically set up a better display. By being "forced" to check on identification in the authorized reference books, it is surprising how much can be learned. It isn't necessary to have the world's best specimens in the exhibit. Many people enjoy the pleasure of sharing their "treasures" with other "lookers". So, enter an exhibit NOW! Enjoy sharing your fun with others. Enjoy it to the fullest.



Chlorastrolite

MICHIGAN'S OFFICIAL GEM

by

E.W. Courter (The Conglomerate)

(February 21, 1972 Governor W.G. Milliken signed the bill making CHLORASTROLITE, better known as Isle Royal Greenstone Michigan's official gem.)

.....John Sinkankis in "Gemstones of North America" writes that chlorastrolite is somewhat a mineralogical puzzle with some investigators believing it to be a separate mineral species allied to the zeolites, while others say it is a variety of prehnite. He adds that few technical references exist to clarify its true identity. And this is still true.

Chlorastrolite is, of course, the famous greenstone from Isle Royale where it is the King of Gems. From nowhere else have such finely marked or as large specimens ever been found, though gems of lesser size and quality are native to the Keweenaw Peninsula. Because chlorastrolite is exclusively formed in the amygdaloidal trap or lava rock that underlies Lake Superior it is a true Michigan gem, and because of its beauty when polished it ranks among the most enchanting.

It was well over a hundred years ago--in 1847 to be exact--that Drs. C.T. Jackson and J.D. Whitney, writing for the Boston Journal of Natural History, described some small rounded green mottled pebbles that had come to them from the shores of Isle Royale. To these previously undescribed pebbles they gave the name chlorastrolite--derived from the Greek words, 'chloros' and 'astro', meaning "green star", and as we shall see, it aptly describes the appearance of the polished gem.

To the casual eye the chlorastrolite is an opaque, bluish-green stone that displays a unique mottling of dark green eyes ringed with pale green so as to create a stellate or polygonal effect commonly described as a "turtle back" pattern. While this pattern is pleasing, the fascinating charm of the greenstone comes from the chatoyancy of each of the turtle back plates. When a polished stone is tilted in the light, the alternating patches of dark and light green shimmer, and with each movement appear to shift or reverse thus creating tiny star beams that flash from each infinitely small center.

A closer inspection under a microscope shows that each segment of the stone consists of thousands of minute needles that radiate from a common center.

Broadside, some of these needles reflect a strong, silky luster while others, turned on edge, become dark. As the position of the stone is shifted, the reflections change.

In 1875, G.W. Hawes made an analysis of the stone (Fig. 1-A), and he published his findings in the American Journal of Science and Arts (Series 3, Vo. 10, 1875). In it he explains its features and also the

.....next page..

.....chlorastrolite

phenomenon of the shimmer. He states that a microscopic examination of chlorastrolite makes it very evident it is not a homogeneous substance. In this case the impurities are distributed through a white mineral which has a radiated structure. It is this irregular arrangement of the pure and impure materials that gives the stone its unusual effect. When a flat surface is cut upon one of the stones, the polished face shows various shades of green; but when the other side is cut away, which makes a thin section of the stone, the spots which have the deepest green are found to be perfectly clear and white, receiving their deep green shade from the colored surfaces beneath. The green impurities are arranged along lines which radiate from these clear centers, and at some distance, the mixture is so intimate that it appears homogeneous.

Chemically, chlorastrolite is a hydrous silicate of calcium and aluminum, but it is so similar to several other minerals, namely prehnite, zonochlorite, pumpellyite, and lintonite, that throughout the years much confusion has existed over their synonymy. The question seems to be which ones should be recognized as individual species and which are varieties--and of what.

As we have pointed out, Hawes showed that chlorastrolite is not a homogeneous substance but one that contains substantial impurities. On this basis, he considered it to be an impure variety of prehnite.

Quite in contrast to this, in 1887, Lacroix described chlorastrolite as a supposed pleochloric variety of thomsonite. This ~~is~~ based on its variable sign of elongation. Thus the confusion was heightened. Which was correct?

The discovery of zonochlorite added more confusion to the situation as it proved to be another synonymy of chlorastrolite. It was another hard hydrous silicate and it too was found as smooth water worn pebbles along Superior's north shore. It was described shortly after its discovery in 1872 by Prof. A.E. Foote at a meeting for the Advancement of Science held in Dubuque, Iowa.

Zonochlorite, like chlorastrolite, was a product from the amygdaloidal trap rock common to the Lake Superior region. It too in its pure form was dark green and also quite capable of accepting a high polish. To some it was even known as the Nipigon greenstone, though it was never used as a gemstone to any extent. Foote named it zonochlorite because some of the stones showed a slight banding of white or light green. From his analysis he was convinced that it was a zeolite.

Again Hawes was called upon to make an analysis of some of the darker specimens. Under the microscope it was shown that the stones consisted of green earthy particles disseminated through a white mineral. From this analysis (Fig. 1-B), Hawes concluded that zonochlorite, like chlorastrolite, was a very impure variety of prehnite.

The first concentrated efforts to clarify the status of the several synonymies came in 1924 when Charles Palachi and Helen Vassar, both at Harvard, became disturbed by the lack of detail concerning the physical

.....next page..

.....chlorastrolite

and optical properties of several of the minerals that were intimately associated with the Michigan copper deposits. Deeming it important that the nature of these minerals be accurately established by chemical analysis, they began a detailed study of their properties.

Early in their microscopic investigations of copper ores, a rather widely distributed mineral in the amygdaloidal lava was noted which in its optical properties did not agree with any recorded species. Dr. A. Wandke of the University was the first to recognize its individuality. Since it was optically closer to zoisite than any other species, it was recorded as a green zoisite. Eventually it was named pumpellyite to honor Raphael Pumpelly, a pioneer student of the detailed paragenesis of the minerals of this region.

Authoring a report of their findings for the American Mineralogist (Vol. 10, 1924) Palachi and Vassar describe pumpellyite as being orthorhombic with the detail of its symmetry based upon its optical properties since no measurable crystals had been found. They reported its structure as being made up of minute fibers or narrow tables flattened parallel to a face taken as a basal pinacoid. Excellent cleavage existed in this direction. Molecular ratios as determined by a chemical analysis (Fig.1-c), provided the formula $6CaO \cdot 3Al_2O_3 \cdot 7SiO_2 \cdot 4H_2O$. Specific gravity was slightly less than 3.2, and the hardness about 5.5.

FIG 1	A	B	C
	Chlorastrolite	Zonochlorite	Pumpellyite
SiO ₂	37.41	35.94	36.99
AlO ₃	24.62	19.41	25.49
Fe ₂ O ₃	2.21	6.80	6.48
FeO	1.81	4.54	
MgO	3.46	2.48	
CaO	22.20	22.77	19.90
NaO	.32	trace	3.70
H ₂ O	7.72	8.40	7.62
	<u>99.75</u>	<u>100.34</u>	<u>100.18</u>

In their report they also state, and I quote: "Pumpellyite occurs at two periods in the complex paragenesis of the amygdaloid. It is one of the late magmatic minerals formed before the copper began to be deposited and before the invasion of the ore-bearing solutions. Its place is after chlorite and epidote and before quartz and pr ehnite. This generation of pumpellyite often lines open amygdaloids with a velvety coating."

It is likely that pumpellyite was one of the substances known to Pumpelly as "green earth," a substance which more than likely was often mistaken for the green chlorite.

.....chlorastrolite

The specimen used for analysis by Palachi and Vassar was from the Calumet and Hecla, Houghton County, Michigan. It consisted of an aggregate of small epidote crystals on a matrix. Some of the epidote crystals carried a bluish-green dusting of tiny bladed needles of the pumpellyite.

And so pumpellyite, another new mineral, became another synonymy to chlorastrolite. Now things were even further complicated!

At this stage it was Harvard's Prof. Clifford Frondell who put things in their proper perspective. Dr. Frondell was of the opinion that the green chlorastrolite was in reality the same as pumpellyite. In order that further tests might be conducted, he submitted some small pebbles to D.S. Coombs of the Geology Department at the University of Otago in New Zealand. The Coomb's report (Mineralogical Magazine and Journal, British Mineralogical Society, Vo. 30, June 1953) is one of the best written on the synonymous varieties of these confusing minerals. In it he states that X-ray powder photographs of chlorastrolite and the type pumpellyite are indistinguishable. Thus Dr. Frondell's opinion was confirmed.

More recently Dr. Joseph A. Mandarino of Toronto's Royal Ontario Museum has provided reconfirming evidence that chlorastrolite, pumpellyite and zonochlorite are merely three different appearing minerals which belong to the same mineral species.

On the basis of this convincing evidence the IMA, the guardian of all mineral names, has ruled that pumpellyite (Fleisher's 1971 Glossary of Minerals) shall represent the minerals species with chlorastrolite becoming a variety.

Thus in their enthusiasm our lawmakers may have stumbled into the technicality of nomenclature. To be technically correct, the proper name of our new State gem should be "Pumpellyite, variety Chlorastrolite," but then who is going to be fussy about it all. Just give me a plain old Isle Royale greenstone, and be it called chlorastrolite, pumpellyite, or whatever, I'll be happy.

So much for the technical aspects of the greenstone. Now let's look at it from the standpoint of the collector and the lapidary.

Literally thousands of pea-sized greenstones--and many larger ones too--have been picked up from the gravel beaches and coves of Isle Royale, but in the Keweenaw area, it requires a painstaking search to find good specimens. The reason becomes obvious once you understand their mode of formation.

Chlorastrolite forms in the amygdaloids, or gas bubble spaces--sometimes referred to as vasculcs--in the lavas associated with the Lake Superior region. Geologically this area has been faulted and some of the blocks have been tilted. Isle Royale is an uplifted end of one of these tilted blocks. Here the amygdaloidal layer of lava has been lifted enough so that it is exposed to Superior's wave action which erodes the gems from their enclosing matrix and tumbles them to the low gravelly beaches.

.....next page.....

.....chlorastrolite

On the Keweenaw the amygdaloidal layer is well below the land surface and away from any eroding wave action. Many of the Keweenaw copper mines have been cut through this rock and some of it has been brought to the surface and discarded on the mine dumps where in some cases the greenstones have weathered out. In a good many cases when found by the collector, they are so badly weathered that they have little value as gem stones.

Most productive of the greenstone beaches at Isle Royale are the south shores of Mott and Smithwick Islands which help to shelter Rock Harbor that stretches along the easterly shore of the main island. My favorite spot, however, is the little gravel cove fronting the Old Light-house which rises above Middle Passage into Rock Harbor.

In the earlier days of private ownership before the island became a National Park, a family living alongside Chippewa Harbor were said to have had their own greenstone mine-- and likely they did, since some of the rock exposures between this harbor and Lake Richie do contain the greenstone amygdules.

Shortly after Isle Royale became a National Park all greenstone collecting was forbidden. Since then each incoming Superintendent has imposed his own rules on collecting. Right now--though I can't say for how long--park visitors are being allowed to pick specimens from the beach gravels--however, no hammers or matrix collecting is allowed. Obviously the current Park Superintendent knows that many of the tumbled greenstones along the beaches will eventually be destroyed by wave action if they are not picked up.

I can recall my first visit to the island. This was long before the modern improvements of today were installed. Every week or so, the park rangers would bring a boat load of greenstone-bearing gravel and spread it on the pathway in front of the old cabins and trading post. Searching these gravels for greenstones became the principal avocation of all the early visitors. Those who were not familiar with greenstones before their visit were indeed greenstone crazy before they went away.

Seldom are the beach specimens more than a quarter to a half inch in diameter, though every now and then the good one does come along. It takes an exceptional specimen to provide a cabachon that is an inch across.

One of the largest specimens--and this collected from the beach many years ago--measured $1\frac{1}{2}$ x $1\frac{1}{8}$ inches. It produced a fine polished cab and is now pictured on Plate 3 of Kunz's "Gems and Precious Stones of North America." At the time, it was owned by M.T. Lynde of Brooklyn, New York, and may even yet be in this collection.

Likely the most fantastic greenstones ever to come from Isle Royale were uncovered in the summer of 1961 by Arthur Vierthaler, an art teacher at the University of Wisconsin. Vierthaler was a scuba diver, and somehow he managed to acquire a permit to collect for museum purposes. Working the under-water, off-shore ledges, he obtained some fabulous specimens. One, a greenstone that measured $1\frac{1}{2}$ x 3", was pre-

.....next page....

.....chlorastrolite

sented to the Smithsonian Institution. It is thought to be the largest greenstone ever found. Several other rather sizeable gems with chunks of native copper imbedded in them were also part of his loot.

Some of our MMS members may remember back to 1964 when Vierthaler spoke before our club and showed his excellent slides covering the fantastic materials which he unearthed during that summer expedition.

When it comes to cutting and polishing the greenstone, one may encounter problems. Because of the peculiar ways in which the greenstone nodules form, only a few can be worked on a grinding wheel. For the small ones, a tumbler is best.

The nodules which form in the amygdaloids are completely surrounded by an enclosing envelope of soft spongy growth of greasy, greenish chlorite which often is permeated with a reddish clay, and on rare occasions small specks of native copper. Fortunately for collectors, this casing is soft enough to permit the nodule to separate from this enclosing rock without breakage.

In many cases, however, nature has left the cavity only partly filled. Sometimes the nodules are even hollow. Such defects usually render them unfit for gem polishing. High grade specimens suitable for cutting and polishing are extremely rare.

Occasionally, a radiated mass of white to pink thomsonite will be partly enclosed in a greenstone nodule. Sometimes it will have a core of prehnite. If a nodule containing such a core is to be cut and polished, care must be taken not to cut away the outer skin of the nodule.

When making a cabachon from a greenstone, one should conform as much as possible to the shape of the original pebble. The stars formed by the individual fiber groups are most beautiful just beneath the outer rind of the nodule. Thus one should proceed with caution when grinding lest the appearance of the finished specimen be disappointing.

With proper care most quality specimens will take a fine glassy polish which brings out the chatoyancy of the many fibers to the highest degree.

Indeed the chlorastrolite is a beautiful gem and I congratulate our good lawmakers for making it our Michigan State Gem.

(April 1972)

Did you know that the Lincoln Memorial in Washington, D.C. is sprouting stalactites and stalagmites in its basement? This phenomenon is caused by water seeping through marble. Though the Memorial is only thirty years old, the formations have grown to several feet. When the Memorial was built, engineers sank 122 steel cylinders to bedrock 50 feet underground. The base of the Memorial is set high above ground on a rectangular platform, thus forming a cavernous space beneath the floor. This is where the stalagmites and stalactites are growing.

(Via--Miama Gemcrafter and The Gemrock.)

IR&MC July Field Trip...Marie Wester

On the July 'rock hunt' led by Pat Bemis, I drove my husband's "ole yellar" Ford van, the "puddle jumper." We drove to Stonington to collect fossils; everyone a prize find. After a quick snack at the cars, we drove to the nearby state park to an asbestos quarry. Thanks to Mr. Smail and his strong back and pick, we all came away with good specimens of satin spar.

Pat Bemis then led the caravan back to his favorite spot in the Gwinn area to collect feldspar with blue quartz inclusions. Of course, we had to get off the highway and onto a 'cow-trail' as I call it. Club members had a good laugh at me because I was following the group and suddenly I was no longer following; you see I got 'way laid' in the deepest rut in the trail. We were finally missed so they came back looking for us and helped us out of the waterhole. Upon making it to the end of the trail, we all got good samples of the feldspar; thanks again to our leader and to Mr. Smail and his pick.

ATTENTION

To all readers of the Jaspilite and exchange club editors:

If you have access to the November issue of the Lapidary Journal, I urge you to read the Mail Bag on page 1328 regarding Frazier Tubbs efforts to have collecting sites reopened to rockhounds in the Keeweenaw Peninsula.

Mr. and Mrs. Tubbs are officers of our club. They have also been officers in the State Line Club of Adrian, Michigan and are still members there as well as members of the IR&MC.

Frazier Tubbs is also on the State Board, representing the U.P.Clubs.

You will also find Dorothy Tubb's letter in the Nov.-Dec.1973 issue of Michigan Natural Resources about her Grandfather W.H. Law and his interest in lighthouses, his ministry, and his life as a pioneer in Michigan's Upper Peninsula as he related it in a magazine he published, very interesting.
.....Arnold Mulzer

" Answer to the crossword puzzle in the last issue."

CRAM CENT
GAUGE AVERS
RABBIT RECITE
ORISLED KEEN
ODDERECT DAD
TERM NAIL ME
SNOOPY RAINED
SPREE ORDER
SENT LAST

SUGGESTS OF MIRTH:

"Inflation is making penny pinchers into nickel squeezers."

"One way to be successful is to follow the advice you give others."

"We can throw stones, complain about them, stumble over them, climb over them, or build with them.

"If you build a fence around yourself, people are sure to give you the gate."

"It is the lifted face that feels the shining of the sun."

IRANIC July Field Trip... Marie Webster

On the July 'rock hunt' led by Pat Bemis, I drove my husband's "old yellow" Ford van, the "pudgie Jumper." After a quick snack at the cafe, we drove to the nearby state park to an asphalt parking area. Mr. Small and his strong back and rick, we all came away with specimens of satin spar.

Return Postage guaranteed
4th issue, 1973
JASPILITE
Ishpeming Rock and Mineral Club, Inc.

Pat Bemis then led the caravan back to the quarry with his wife and two children. We were finally missed so they came back looking for us and helped us out of the vehicle. Upon making it to the end of the trail, we all got good samples of the feldspar; thanks again to our leader and to Mr. Small and his rick.

Laurence and Olive Sain, editors
818 West Kaye Avenue
Marquette, Michigan 49855

Answer to the crossword puzzle in the last issue.

- CREAM CHEESE
- CANOE AVERS
- RABBIT RECITE
- ORNSLEDGREEN
- GONDERECTWAD
- TRONMAYLIMS
- STMT LAST

Mr. & Mrs. C. R. Markert

R-1, Box 620

Ishpeming, Michigan 49849

ATTENTION

To all readers of the Jaspilite and exchange club editors:

If you have access to the November issue of the Jaspilite Journal, I give you to read the Mail Bag on page 1328 regarding Fraser Tubb's efforts to publish a magazine.

voesaw Panimania.

our club. They have also been office of the State of Michigan members there as well as members of the IRMBC.

Fraser Tubb is also on the State Board, representing the U.P. Circle.

You will also find Dorothy Tubb's letter in the Nov.-Dec. 1973 issue of Michigan Natural Resources about her Grandfather W.M. Law and his interest in lighthouses, his white-ox, and his life as a pioneer in Michigan's Upper Peninsula as he related it in a magazine he published, very interesting.

One way to be successful is to follow the advice you give others.

"We can throw stones, complain about them, stomp over them, climb over them, or build with them."

"If you build a fence around yourself, people are sure to give you the gate."

"It is the lifted face that feels the shining of the sun."

.....Arnold Muiser