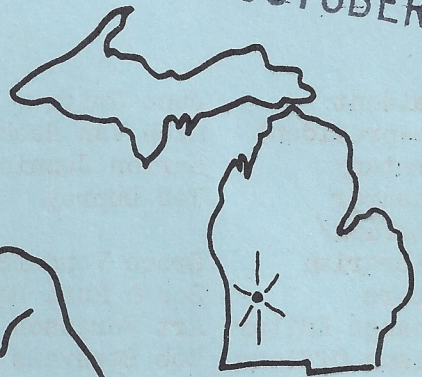


OCTOBER 1979



GLACIAL THE DRIFTER



LARGE BULLETIN

AFMS

FIRST

PLACE

TROPHY

PUBLICATION
1978

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The Grand Rapids Mineral Society is a non-profit corporation and is a member of the Midwest Federation and the American Federation of Mineral Societies.

Meetings are held the third Wednesday of each month at 7:30 p.m. (unless otherwise noted) in the Multi-purpose Room of the East Building of the Grand Rapids Public Museum. Summer meetings are at various parks in the area as announced.

Membership dues are \$7 per year for a family; \$5 per year for a single membership and \$3 per year for a student under 18 years of age. Dues are payable to the treasurer. The fiscal year is from September 1 through August 31 of the following year. Those joining the club from March 1 through July 31 shall pay one-half the annual dues. Unpaid memberships will be dropped from the roll in December.

All material for publication shall be in the hands of the editor no later than Monday after the regular monthly membership meeting.

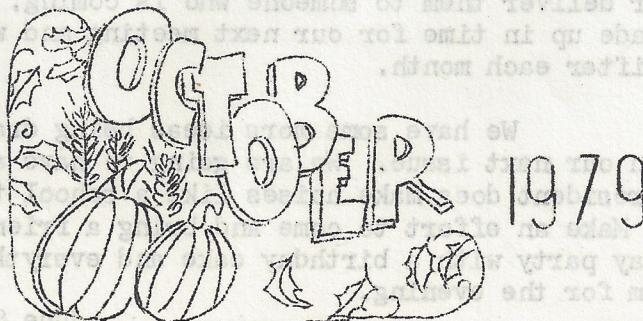
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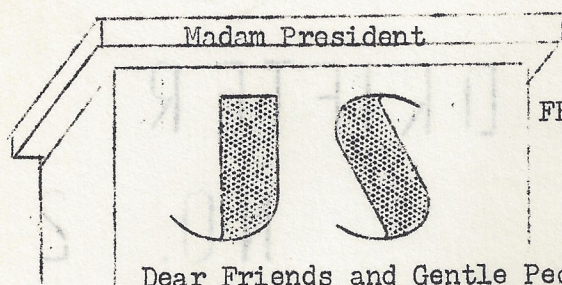
Advertising in THE GLACIAL DRIFTER is limited to a uniform size of one-third page at the rate of \$3 per issue, September through June.

THE GLACIAL DRIFTER
VOLUME 22 NO. 2

G.R.M.S. CALENDAR

- Note
Change of
Date -
- Wed., OCT. 10 Our 21st Anniversary Banquet - Pot Luck at 6:30 p.m. (promptly!) Bring a hot and a cold dish to pass (one if you're a single). We will have guests from other clubs so we will need plenty of food. Our meeting is ONE WEEK EARLY because of a special program --Steve Tchozeski, NASA, and moon rocks, all in a special presentation. The program will start at 8 p.m.
- Mon., Oct. 22 Board of Control meets at 7:30 p.m. at the home of President June Smith, 3250 Thorncrest SE. (Take Cascade Rd. east across the Thornapple River, turn right on Thorncrest. Her home is almost to the end of the road, on the right.)
- Sat., Oct. 27 Indian Mounds Rock and Mineral Club Field Trip via bus to Sylvania for fossils. Our club members are invited. Details on FIELD TRIP-PING page.
- Wed., Nov. 21 Our Annual Silent Auction! 7:30 p.m. at the museum.





FROM THE PRESIDENT'S DESK. . . .

Dear Friends and Gentle People;

What a year this has been! A trip around the world, a revolution, and now here I am, president of G.R.M.S. What more could happen? Except a summons by our editor to write something for the Drifter....this is the worst trauma of all - a blank sheet of paper to fill with wisdom or what have you.

Every president wants to make some changes and I'm no different. It's not that what has gone on before is wrong but I guess the feeling of power comes over us all. We want "to do it my way." Fortunately, my term only lasts eleven months more, so hang on friends, here we go.

First, I'd like to emphasize that we are going to start all of our regular meetings at 7:45 - so be there or you may miss out on something important. We sure don't want to cut visiting out, one of the important factors of our gatherings, only to change the timing.

Second, A few of our guests have indicated that they still feel a little left out at our meetings. We've had a hostess who has done a terrific job but she can't be everywhere at once so we are going to give her some help. There will be two couples appointed as hosts and hostesses each night to greet our new guests, put a name tag on each along with their main interests. At that time they will be introduced to some other person who is interested in the same things, lapidary, geology, minerals, etc.

Third, the refreshment table is one of my favorite places after the meeting but it seems as if it has been a "present" of the same people each week. A refreshment chairman will be appointed but a list will be made up to assign each of us a specific date to show off our baking skills. With as many families as we have each of us should have to bring something only once. Please accept these responsibilities. If you can't be here that evening trade with someone else or deliver them to someone who is coming. We will have the schedules made up in time for our next meeting and will place reminders in the Drifter each month.

We have some more ideas being drafted and we will discuss them in our next issue. We are going to have another good year even if your president does make noises like a school teacher. See you on the 10th! Make an effort to come and bring a friend. The dinner is a birthday party with a birthday cake and everything as well as a special program for the evening.

-June Smith

OCTOBER 10 1979

MEETING

WEDNESDAY, OCTOBER 10

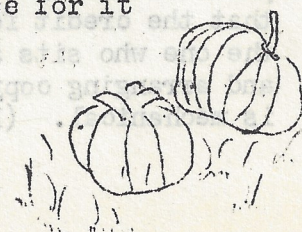
POT LUCK SUPPER 6:30 P.M.

This is our 21st anniversary and we're going to have a banquet, rockhound style. That means bring a hot and a cold dish and your own table service, and join us! We'll provide the beverages and rolls. We'll have guests from four other clubs and you will have an opportunity to meet and greet them.

Please note that this program is one week early -- we have moved it up to OCTOBER 10 because of a special program. Steve Tchozeski, who teaches earth science at Belding Junior High School will present a NASA program on moon rocks and what the space program means to you and the scientific progress of the United States. Steve attended a special orientation before being permitted to present the program. Don't miss it! If you are unable to come for dinner, come at 8 p.m.

The Grand Rapids Public Museum is going to let us have our pot luck in the old garden center area - where we had our last meeting - and the program will be presented in the multi-purpose room. That way we will not have to clear and remove the tables for the program seating. Remember that guests are always welcome. June Smith and Marion Jennings will set things up and Pat O'Beshaw will do the decorations.

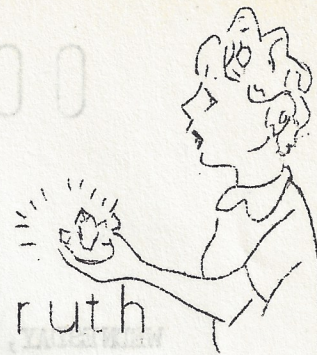
IN RETROSPECT. . . . I think everyone enjoyed our September meeting. Being in the old garden center seemed to bring us much closer together and everyone had an opportunity to get to meet everyone else. Mary Jane Dockeray's program was excellent--it was great to travel the Maine coast with her. Many of her slides were taken at the Audubon Club's camp in Maine where she has been on the staff. Since she was a geologist before getting a doctorate in environmental science, she managed to get quite a bit of geology into the program. In fact, she has invited us to visit her at Blandford Nature Center any time we need help with identification of rocks. Probably you read in last week's paper how she identified that marvelous find of gold by a Grand Rapids boy who purchased a black-looking rock at a Colorado gift shop and just got around to breaking it open. What a find! His picture must have been picked up by a news service for it has appeared in a Detroit paper.





the editorial page

crystal
gazing



It was a pleasure to see Florence Hill at the September meeting. In addition to being State Director for MWF, Florence has also been on the Geology Committee for the Federation. We've had the pleasure and good fortune to participate in four of the five MWF Geology Field Trips, in which she had a large part in planning and executing. She brought us news of a proposed amendment to the Federal Mine Safety and Health Act (MSHA) of 1977. The amendment would relieve quarry and gravel operators of the need for special handling, expenses and risks involved if they were to allow specimen collectors on their properties. Pay particular attention to your Midwest Newsletter, front page, column 1. The House of Representatives has a bill in committee - HR1603 and the Senate has one, too, - S625. You can help get this legislation passed by writing to your federal senators and congressman urging the passage of these bills. Individual letters carry much more weight than a single letter with 100 signatures attached. You might also send letters to both committees:

Health Education and Labor Committee
Sub-Committee Health and Safety
U.S. House of Representatives, Washington, D.C.

Senate Labor and Human Resources Committee
Senator Harrison Williams, Chairman
U.S. Senate, Washington, D.C.

Perhaps it would help to mention how such collecting trips add to the nation's knowledge of the earth (who knows, a new mineral or fossil might be discovered), as well as to the knowledge, health and well-being of those who participate. Ruth and I are going to write, why don't you? While you've got your pen in hand, decide what you want to write to your state senator and representative about the selection of a state mineral. You'll find an article in this issue about that. As soon as possible we will inform you of the house or senate bill number so you can send your comments to your legislator.

Ruth and I are grateful to Florence for bringing the Bulletin Editor's Trophy and certificate to us. We are naturally pleased with the compliment the judges have paid us. I must say that the credit for such an honor really belongs to Ruth. She's the one who sits at the typewriter for hours, selecting, composing and arranging copy and typing stencils while most of the work I do is mechanical. (But he can draw, I can't! - Ruth)

-Bob

FIELD TRIPPING

We promised in September to give you more details of the Indian Mounds Rock and Mineral bus trip to Sylvania, Ohio. Here it is:

They have invited our members to join them. The cost to you will be \$13 per person. Coffee and donuts have been promised enroute. You'll probably be grateful for this for the bus will leave at 6 a.m. from the parking lot of Sunset Park Church of God, 3450 Michael SW, Wyoming. This is the round church on the left side as you drive south on Michael from 32nd Street - just north of the Michigan Bell Telephone Building at Michael and 36th Street.

Bring your lunch and wear sturdy clothes. Tools you may need are rock (or similar) hammers, small chisels, possibly a 3 to 4 lb. crack hammer. A small shovel or garden claw might come in handy. You'll need wrapping material (such as newspapers), possibly egg cartons for small specimens; and, of course, a box, bag, or pail to carry the whole lot in.

What will you find? Trilobites are found here, often coated with marcasite; mucrospirifers, several kinds of brachiopods, crinoid stems and buttons, and other fossils. Some can be found loose in the rock debris, others will have to be dug out or pounded from the rock.

We will be stopping on the way home for dinner somewhere.

There have been so few opportunities for a field trip in our locality that this is a splendid opportunity to go on one and have a good time with fellow rockhounds, get outdoors one last time, and with no strain of having to drive, to say nothing of not buying gas! Sylvania is located just west of Toledo, so we have a way to go.

It would be appreciated if you paid your fare at our next meeting. See Bob Beauvais for reservations. Call him at 534-3871 if you have any questions. We've included a couple of articles that should get you acquainted with the hunting area.

If you are interested in a field trip into the Michigan Natural Storage Company gypsum mine later in the year, please tell our officers.



TRILOBITES

by Ernest Hammons

The fossil record we find buried in the ancient sedimentary rocks bears evidence of an extraordinary group of marine creatures, the trilobites. The story of the trilobites began in an ancient period of the history of the earth, the Precambrian period, which goes back in time, perhaps, as far as one billion years. The high point of the trilobites' differentiation of forms was reached toward the end of the Cambrian period or the beginning of the Ordovician period, some 500 million years ago. Trilobites became extinct at the close of the Permian period, 230 million years ago.

The presence of particular genera of trilobites in marine sediment of determinate geological age makes these fossils very important "index" fossils. The presence of identical forms in rocks of identical age on locations which are separated by oceans is tell-tale evidence of the drift of the continents on the earth's crust.

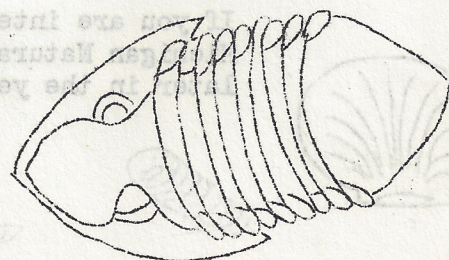
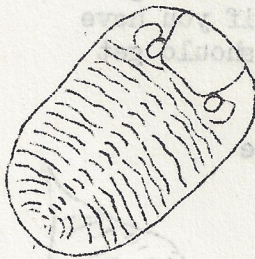
Trilobites were, on the average, small animals two to seven centimeters long, with extremes ranging up to 70 centimeters. They lived in the sea,

usually in shallow seas. The commonly preserved portion of the body of the trilobite is the dorsal shield or carapace, made of mineralized chitin. The ventral part of the exoskeleton is very seldom preserved, and we must assume it consisted of a soft membrane, which was usually not mineralized except for that portion under the cephalon, a V-shaped hardened portion called the hyposthrene.

On examining one of these fossils, we recognize at once the bilateral symmetry of the trilobite body. The convex central region takes the name of Axial Lobe, and the two more flattened adjacent regions are called Pleural Lobes. It is from these three longitudinal lobes that the name Tri-lob-ite originated and not from the transverse subdivision of the body into three regions: The cephalon or head, the thorax or body, and the pygidium or abdomen--as is commonly supposed.

Eastern North America is one of the richest sources of fossil trilobite specimens in the world. Here we find thousands of different species. More than 10,000 have been identified from millions of individual specimens. These fossils are found abundantly in our area from Alabama across Tennessee into Kentucky and Ohio.

-COBB L STONES via THE STAR-O-LITE



North & West East This Time

by Herm Prins

I was lured to the east for several reasons, one of which was to attend a huge rock swap and sale in Gilsum, New Hampshire. I wanted to see what the easterners had to offer and their mode of bargaining as well as to get into the good Maine diggings. I also wished to visit Niagara Falls, a spectacular area I had bypassed in all my previous wanderings, and to visit the Canadian province of Quebec to get into the digs at Asbestos.

So out came the maps and an itinerary of adventure was planned. Where to go specifically, what and when to visit, what to dig for; in other words, who, what, why, where and when --and how?

The plan was set, the day arrived and here I go, at 3:00 in the morning in the cool of the morning to get the most out of the first day. I went to Niagara Falls via Port Huron and arrived in good time. The falls, especially viewed from the Canadian side are quite impressive, and most impressive is a ride on the boat, "The Maid of the Mist," which takes you past the American Falls to the base of the Canadian Falls. Quite thrilling would be an understatement as one gets a lowly, humble feeling viewing the falls from near the base. A repeat visit to this marvelous spot is planned in the future.

After leaving the falls, I spent some time seeing the sights of Montreal City, soaking up some history. Old Montreal should be visited by all history buffs and those who wish to brush up on their French.

My next stop was to visit the asbestos mine (Jeffrey Mine) in Asbestos, Quebec. Here is a most famous

mineral deposit from which has come the renowned clear hessonite garnets, some of which contain diopside inclusions. Also found in the area, among myriads of other beauties are the green chromiferous garnets, as well as huge prehnite crystals shaped as rhombic pyramids and doubly terminated - see the Mineralogical Record, Vol. 10, No. 2, March 1979. I managed to obtain on a trade one nice hessonite cluster specimen, quite large, one single garnet crystal 16mm in diameter on matrix, and a green garnet cluster. The collection of the geologist with whom I had the pleasure of doing business has, among many other rare beauties, a hessonite garnet, clear and beautiful, 3 cm in diameter. Needless to say, he would not part with it.

After leaving this area, I went to Thetford Mines to see if more hessonites could be gathered here. When I arrived in the town I had a real language problem. I don't speak French. I even had to order a McDonald hamburger in French.

I did have an address that I displayed to one local citizen and thru it he gave me directions, all the while speaking French and waving his arms. He pointed down the street, crossed his arms, snapped his fingers, pointed down the street again waving his hand up and down, crossed his arms, snapped his finger again and pointed left, held up two fingers, all the while yelling in French. Well, I tell you right now, I didn't know whether to go for coffee or go for broke.

After analyzing what he was
-continued

NORTH AND EAST (continued)

demonstrating, I thought I figured it out. I thanked the old gent in what I considered my best French: "Muchas Gracias," and proceeded to enter my car. I hesitated a moment, turned back to the benefactor with a sheepish grin and said to him, "Merci beaucoup," to which he said something Frenchy.

Well, believe it or not, I followed his direction and found the person I was looking for. I also found out that good quality hessonites are not to be found at the Thetford Mines. After spending some time with my new acquaintance and trading for a beautiful rhodochrosite grouping, I proceeded to Quebec City.

The Old City is built on two levels and is a must on any itinerary in this area. The old Chateau Frontenac should be toured as well as the historical site, The Citadel, from which you can see the Plains of Abraham and reminisce over the battle between Wolfe and Montcalm in which both generals died. The lectures were first given in French and then interpreted in English.

Leaving this interesting city I decided to visit the state of Maine, via the province of New Brunswick, fascinating and beautiful country to wander through.

While in Maine I wanted to visit some famous digs. I tried to get into the Newry tourmaline digs owned by the Plumbago Mining Company. They said, emphatically, NO! Well, I have gotten into a lot of places but I knew that they meant what they said so I moved down the road a bit to Mt. Mica near West Paris. I worked like a coolie at this hot place and uncovered some mica with clear green tourmaline inclusions. Some of the specimens are really worthwhile.

After this adventure I went to Gilsum,

New Hampshire, to get involved in their great annual rock swap. The setting for this is in a picturesque valley, part of the local school property. There are 60 mines, now defunct, in the immediate vicinity, most of which were mined for mica and/or beryllium. While in the area I prospected for a day at the Beaugard Mine for beryl and did uncover some specimens, not of the quality I want to keep, however. I felt the rock swap was a great success as I did quite a lot of business with many enthusiastic rockhounds and made new friends. I brought back some nice rubellite tourmaline from Rumford, Maine (Black Mountain). While they are not clear and gemmy they are nice. When the swap disbanded I had some interesting conversation with the colorful natives.

I had originally planned to continue south to North Carolina to one of my favorite digs, the emerald mines at Hiddenite. After listening to the radio concerning the gasoline squeeze with its negative connotations, and ramifications, and receiving a very impressive telephone number entitled "Gasoline Availability Information Network for the Northeast" which had a very ominous undertone, I thought, "who needs this!" I headed back to Canada for three very good reasons. (1) no gas problem, in fact they have a surplus, (2) gas plus other commodities are discounted 15% on the dollar exchange, and (3) I set my sights again on Asbestos and the hessonites, on Ontario--Bancroft for betafites; Cobalt for silver; and Timmins for gold.

On the way I stopped off at Eden Mills, Vermont, for the beautiful hessonites found there. They had a policy of making a dump for rockhounds, which is just superb, but the dump had just been leveled off and will be covered permanently. I was given permission to search the area, however, (concluded)

NORTH AND EAST (concluded)

and found a few nice specimens, but I am afraid that Eden Mills hessonites are past history. There will be no more, folks!

Then it was back to Asbestos, back to a special dump where I had collected a little the first time I was at Asbestos. This is set aside especially for collectors, a special privilege granted by the Johns Manville Mining Corporation for which we can be very thankful. If you are ever in this area never abuse this privilege, do not litter and be sure to send a letter or appear personally to thank the company for this gift of hospitality. This time, just by pure luck they had dumped a fresh load on the dumps for collectors and I was the first one there. I tell you now, I lost a lot of weight trying to move that pile but it was worth it. What's more, I met another collector with whom I traded some more superb hessonite specimens. That was a great day -- I had made the correct decision.

The next stop was Bancroft, Ontario, and the Silver Crater Mine for betafites. If you have ever been to Silver Crater around the end of June through July you know what's in store for you. Go to Bancroft's hardware and obtain the following: good pair of canvas gloves, bottle of musk oil or Record 100, a can of Off and a mosquito net, head to shoulder. Laying in ambush are bot-flies, sand flies, horse flies, and a dozen varieties of mosquitoes. Is it worth it? Sure, you are going after rocks in the boonies, not to Woodland Mall for hamburger. A good way to keep trim. Did I get any betafites? No, but I found a lot of apatite crystals.

The following day I left for Cobalt to obtain silver specimens. I did visit several silver mines and the interesting museum in town but was allowed to dig on only one dump belonging to the Silver Fields Mine. While I found no silver I did find some cobalt. Near the

town of Haileyburg I searched diligently in an area called Silver Centre. On the dumps I found some silver ore, cobalt, and erytherite or cobalt bloom. The horse flies in this area are unbelievable. No amount of Off will stop them. They crash right into you, take what they want, and keep going. I decided to allow them to take the silver.

Then I headed for Cochran and boarded the train called The Polar Bear Express to Moosenee. From there I took a large Indian canoe to Moose Factory Island on James Bay. This is the first permanent settlement in Ontario, pioneered by the Hudson Bay Fur Trading Company. It is an outpost to Hudson Bay and other ports to the north, quite primitive, mostly inhabited by the Swampy Cree Indians - and moose flies which are related to horse flies but real meat extractors. There are a few cars in the area but no roads to civilization. The cars and drivers need no license and no insurance is available. The area, nearly 200 miles north of Cochran, is accessible only by canoe, helicopter or the railroads.

Coming back from this remote settlement I went to Timmins to inquire about gold. No gold available, of course, but there are some large gold mines in operation that are interesting to visit.

By then I had been away from home long enough and headed for Grand Rapids via Sault Ste. Marie, arriving safe and sound--no mishap whatever other than close encounters with flies and mosquitoes. I lost weight, felt very trim, got a good tan and had many interesting adventures. All in all the trip was very successful and after a few days of rest I was ready to go again. But that's another story. . . .

One last word -- If you are in Asbestos be sure to visit their mineral museum, also the museum in Cobalt, Ontario.

ANCIENT RICHES OF SYLVANIA

from THE TOLEDO BLADE, TOLEDO, OHIO

Down on the bleak and dusty floors of a half dozen quarries around Toledo, an odd little ritual unfolds every weekend, weather permitting. Hammers ring on splitting rocks, clusters of men, women, and children dab and pick at gray slabs of stone with toothbrushes and dental tools. An occasional elated shout echoes up to the ground level.

It's not, as it might seem, a re-enactment of the California Gold rush. But in these local limestone quarries, there is a lode of a different sort that is pure gold to amateur paleontologists--sometimes better known as fossil hunters.

On most weekends from March to November throngs of them descend on the quarries like a swarm of zealous '49'ers to hunt for the seemingly endless supply of ancient plant and animal remains lying within an hour's drive of downtown Toledo.

They come to hunt fossils--on occasion from all over the nation--and on a regular basis, from as far as Chicago and New York. Some stay as long as two weeks, making fossil collecting one of the great, if unadvertised, tourist attractions in northwestern Ohio.

Thousands of such antique creatures as trilobites and brachiopods have been found and carted away over the years. Some end up in museums. Others are put up for sale in rock shops across the country. But most are hoarded in bedrooms, basements, and dens for what reason no one is really sure.

Some individuals, driven by the serious fossil hunter's patient zeal, have gathered hundreds of the bug-eye

trilobites for their private collections, never to be traded or sold. And lest these impassioned attractions for fossils be underestimated, old timers tell the story of a man who finally cemented his collection together and plastered the wall of his den with trilobites. The story may be apocryphal, but it rings true.

The object of all this time and effort is the rubble of a bizarre world lying buried, but hardly forgotten, just a few yards beneath modern streets and cornfields.

It is a world that died a quarter billion years ago; a world left high and dry by the vanished tropic seas of Devonian and Silurian times; a world that once resembled the Bahama Islands, with coral reefs, shallow lagoons, and tidal ponds--all teeming with strange forms of life.

Vast numbers of the animals (and a few plants) are preserved in nearly mint condition. Yet they are older than the Rocky Mountains, the Grand Canyon, and very likely the Atlantic Ocean.

Where quarries cut through topsoil and glacial debris, the fossil-bearing rocks are exposed. Here, some of the finest specimens to be found anywhere can often be gathered like shells on an ocean beach. Richest of all the rich diggings is found at the limestone quarry near Centennial and West Brint Roads, owned by the Medusa Cement Company.

On a warm Saturday or Sunday as many as found hundred amateur paleontologists
(continued)

RICHES OF SYLVANIA (continued)

come to pick at the Medusa Quarry rocks. They've been collecting fossils here for some forty years now. Success such as this cannot be kept a secret, so the legend of Sylvania township has spread along the grapevine of shops and clubs across the nation. Today, the Medusa quarry is something of a midwestern mecca for fossil hunters.

Just to verify the legend, I spent a recent Sunday afternoon climbing over piles of shale and limestone down in the quarry, to make a sample "one-hour" collection.

The first step in fossil hunting is to obtain permission from property owners to enter the diggings. This was done at the Medusa company office on Centennial Road, south of Sylvania Ave. (The office is open on weekends.) In spite of a chill day and the threat of rain at any minute some twenty-five adults and children were at work on the rock piles at one in the afternoon.

At first glance, nothing but rocks are apparent. But a closer look reveals small, gray shells that seem scattered everywhere. On the quarry rim the fossils have weathered out of the soft Devonian shale, and here the ground is littered with delicate spirifer brachiopods--clam-like animals whose shell suggests a moth with pointed wings. Along a graded road to the quarry floor, some even scuffed the dirt to turn up an occasional fossil with the toe of a shoe.

The proper collecting technique can be picked up after a few minutes of watching over shoulders. Start with a slab of dark, layered shale. The rock is soft and splits open like the pages of a book with little pressure from a chisel, pocket knife or even bare hands. The shale divides where fossils are present. Most often, a few brachiopod shells are revealed, some covered with brassy iron pyrites. Sometimes a twig-like bryozoan

(similar to coral) appears, or perhaps the shell will be that of a small squid or snail. In the abundant, but hard, limestone, large horn corals can be found.

Just about everyone is out for trilobites, and usually it's at the expense of dozens of other fossils that are broken or ignored. Trilobites are harder to find than most other fossils, and they also bear more of an aura of antiquity.

A short while after I started digging, a man from Battle Creek, Michigan, who said he spent every available weekend breaking rocks, uncovered a perfect specimen just a few yards from me. Three inches long, with black gun-turret eyes staring from an armored head, it looked fully capable of scurrying off in a huff to hide in some new crevice. By mid-afternoon, other collectors had each found some of these distant relatives of insects.

Discovery of a trilobite is the signal for opening up a satchel of tools which is the paleontologist's equivalent of a fisherman's tackle box. Out come dental tools, toothbrushes, icepicks, tissue paper for wrapping, small chisels, and sometimes even a camera. Quite likely all this equipment is not essential, but the theory is that the more tools, the better the chances are of bringing back a real prize.

But whether toothbrushes and dental tools, or bare hands, are used, the rule is that the gentlest force is the best. As much as half an hour--and sometimes more--may be required to extract a specimen. It's a good idea to leave the trimming until after you get home.

At home final touches may involve soaking the trilobite or brachiopod in
(concluded page 14, col. 2)

ON ZEOLITES IN GENERAL - THOMSONITES IN PARTICULAR

by Mary C. Honton

It was an exciting week. For the first time I worked on removing thomsonite from basalt veins, rather than scratching beach gravel to find specimens already eroded out of matrix. In the past, trips to the north shore of Minnesota meant only agate hunting. But such is reality --this year only three short trips to the beaches for agate!

When I returned to Michigan I wanted to learn more about the thomsonite in particular and zeolites in general. Then, in the August issue of Rock and Gem (1979) I read a comprehensive article on zeolites written by Bob Jones. The author contends that there is no such thing as a complete list of minerals listed as members of the zeolite family. The article has a list of zeolites and the minerals associated with them. Several authors that I have read propose, as does Bob Jones, that zeolites have been known for a long time but lacked appeal to the gem collector and lapidary because of the lack of color, especially in those varieties that lack crystal structure and are found in large masses. I found myself agreeing with Bob Jones when he said that "they form some of the most esthetically beautiful mineral groups to be found."

Back to the reference books. Many contain information about zeolites and some refer to thomsonites. By way of a chemical formula, none agree. The following reference books were checked:

"Mineralogy" by Dana (1898)

"Manual of Mineralogy" by Dana (18th edit., 1959)

"Getting Acquainted with Minerals" by English (1934)

"Mineralogy for Amateurs" by Sinkankas (1964)

"The Collector's Encyclopedia--Gems, Minerals, Crystals and Ores" by Pearl (1967)

"Audobon Field Guide to North American Rocks and Minerals" 1978)

"Guide to Rocks and Minerals" Simon & Schuster (1978)

The Mineral Digest, Volume 8 (1976)

The Lapidary Journal (August, 1978)

The Bob Jones article cites two definitions of zeolites (without mentioning the sources): (a) "crystalline hydrated aluminosilicates of alkali and alkaline earth metals," and (b) "...those minerals which have a ratio of twice as many oxygen atoms as combined aluminum and silicon atoms, plus a tekto-silicate --very open structure, plus have any of the alkali or alkaline earth metals elements attached, plus gain or loss of water equally well."

Mr. Jones lists 36 zeolites and 18 minerals found in association with them. I checked the 1976 DNR publication on The Mineralogy of Michigan (Publication #6) and this lists 9 zeolites found in this state: analcime, faujasite, harmotome, heulandite, natrolite, clinoptilolite, stellerite, stilbite and thomsonite, in association with

(continued)

ZEOLITES/THOMSONITES (continued)

apophyllite, babingtonite, calcite, chlorite, copper minerals, datolite, fluorite, hematite, pectolite, prehnite, pumpellyite (var: chlorastro-lite), pyrite and quartz varieties.

In another article I will discuss the controversy about the "Michigan thomsonite." It has to do with the identification between the thomsonite and prehnite and mistaken identities.

There is thomsonite in Michigan. I have found nice specimens on the south shore of Lake Superior, particularly around the east end of Great Sand Bay. I have also found smaller specimens around Sedar Bay. (Sand Bay is located along M-26, the shore drive between Eagle River and Eagle Harbor.) And I have found prehnite all along the Lake Superior beaches, particularly at both Tamarack and Calumet Water Works.

The most famous area for collecting thomsonite in the mid-west is that area from Lutsen (Cascade River Park) to Grand Marais, Minnesota. And the most popular place for collecting is in the area immediate to the Thomsonite Beach Motel which is owned by Maurice and Tanya Feigal. The chemical formula for thomsonite from this area is $\text{NaCa}_2(\text{Al}_3\text{Si}_3\text{O}_{20}) \cdot 6\text{H}_2\text{O}$.

Also present in the basalt and in nodules eroded out of the basalt are lintonite, datolite and other zeolites. The beautiful patterning and color found in thomsonites from this location is due to the impurities from ferrous iron compounds and copper. The Mineral Digest, Vol. 8, (1976) contains many color photos of this gemstone that were taken of the museum at the Thomsonite Beach Motel. The colors range from shades of red, pink, green, yellow and brown. The greenish variety, solid green in color, but of a great variety of shades, is the lintonite.

Thomsonite is reasonably hard, ranging from 5 to 5.5 on the Moh's scale. But it is brittle! Maurice told me that he stabilizes all of the gemstones of this variety before he does any lapidary work. This is done with an epoxy but with the use of vacuum. I think this is the same process used to stabilize opal, turquoise and other "fragile" gemstones. Thomsonite which has been freed from the basalt and found in beach gravels presents no problem. It is pretty well set to be used as a gemstone without too much lapidary work.

That which is found in the basalt is another thing. To extract the mineral, CARE must be taken. The basalt is hard and the gem is usually well contained in this matrix. Patience! The use of a cold steel chisel can easily destroy a choice stone. Maurice uses a sanding disk on a flexible shaft tool and he uses this with caution, making small cuts into the matrix until he can determine the contour of the stone, and then proceeds to extract it. I was most fortunate in finding some basalt in a state of deterioration and I could use the chisel. Some of the thomsonite in this matrix was also in the process of deterioration from the loss of water and it crumbled. Most

(concluded)

ZEOLITES/THOMSONITES (concluded)

of the gemstone, however, was in good condition. I found nodules and seams. One of the varieties there is called "Angel Wing." It is in massive form as opposed to the smaller nodules and it is a beautiful shade of white and pink. I would be happy to show any member who wishes the varieties that I collected this summer.

And, I forgot to mention, when using the sanding disk to clean the thomsonite from the matrix, water must be used as this gemstone is subject to fracture when it gets too hot from the friction.

(Ed. Note: Bring it to the next meeting and show it at the display table June is planning, Mary!)

SAFETY CORNER

The National Safety Council suggest that when lifting heavy objects in order to prevent back injuries:

1. Never try to lift more than you can handle.
2. Crouch down to what you are going to lift.
3. Plant your feet firmly on a surface that is strong enough to hold you and the load you are lifting.
4. Get a firm grip on the object. Place fingers underneath the load whenever possible.
5. Keep your head up, arms straight, and keep your back as straight-up-and-down as possible.
6. Lift gradually and push up, using your strong leg muscles.
7. Avoid twisting motions, shift the position of your feet.
8. Keep the load as close to your body as possible.
9. Put things down by reversing the above methods.

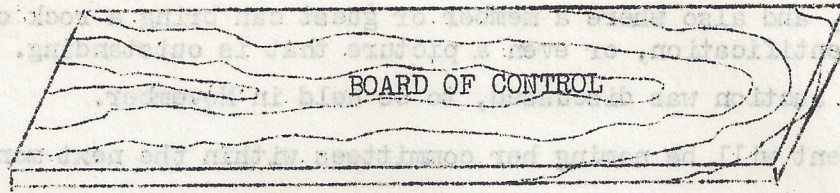
via AFMS NEWSLETTER

RICHES OF SYLVANIA (from page 10)

vinegar to loosen the limey mud around it. Cleaning can be done with a toothbrush and a sewing needle. The final step for trilobites is a very light coat of clear nail polish. This prevents cracking and also gives the bug a lustrous sheen. So now you've got your fossils cleaned, buffed, and gleaming. What can you possibly do with them? If a buyer can be found, the profit might pay for the gasoline and food consumed on the collecting trip. But the really serious collector attaches a fierce, flesh-and-blood loyalty to his growing stony menagerie. The Battle Creek man said, "I've got hundred of trilobites at home, but I wouldn't take \$100 for one. They're just something to put on display and brag about a little."

For children, of course, an afternoon's collecting could be the start of a lifelong interest in natural science. To get the most out of a collection, educators usually advise that parents urge their children to identify and label their specimens. Aside from the obvious value of this bookwork, it may just turn out that eight-year-old Johnny has uncovered a new species of extinct life never before known to man. Such things do happen, scientists note with a touch of anguish, and there's no reason to believe that it won't happen again. Perhaps that remote possibility of finding a real scientific treasure looms in the back of every fossil hunter's mind. But his real motivation is probably a vague sense of awe that comes with rummaging in nature's attic, an old sea bed. "Besides," said one father perched on a rock pile, "breaking rocks is just good mental therapy."

(This is reprinted from THE CONGLOMERATE, March 1973 and we've used it before, but it so appropriate to the coming field trip, we felt we should use it once again.)



Minutes of the Meeting, September 24, 1979

The first meeting of the Board of Control for the year 1979-80 was called to order by June Smith, President, at the home of Bob and Ruth Beauvais at 7:45 p.m.

Present: June Smith, President; Rich VanBeek, Vice president; Marion Jennings, Secretary; Ted Duprey, Treasurer; Grace VanderBilt, Historian/Librarian; Bob and Ruth Beauvais, Editors; and Dick Pulliam, Chuck and Lois Jarmoloski; Herm Prins, Rick and Pat O'Beshaw, Bernie VanderBilt and Marie Duprey.

The minutes of the August 20 meeting were read and after a correction to include the October program on moon rocks to be given by Steve Tohozeski which will necessitate changing the date of the October meeting to October 10, instead of October 17, the minutes were approved as corrected.

The treasurer's report was read, showing the following:

Balance in checking account	\$316.31
Balance in savings account	179.66
Balance -Memorial Fund Account	331.94
	<u>\$827.91</u>

The report was approved and placed on file.

The October meeting is to be a pot luck dinner commemorating the 21st birthday of the club. It had been decided to invite at this time four members from four other clubs to share in this occasion. After discussion the following clubs are to be invited: Indian Mounds, Muskegon, Holland and Grand Haven. The president offered to call the clubs since the time is short. She also offered to take charge of table arrangements, with the assistance of Marion Jennings. Each of the board members is to be a host or hostess. It is hoped that arrangements can be made to have the pot luck dinner in the plant room and the program set up in the multi-purpose room.

The raffle was then discussed. It was suggested that since this is a club project to raise money, each member of the club should be willing to participate. The board felt that each member of the club should donate one good gift. This could be one of the following suggested items: a book, a tool, a crystal specimen, an interesting rock specimen, a finished cab, and slabs for membership drawings. No raffle will be held at the October meeting.

The president had suggested that a "sharing table" be set up each meeting where members can display interesting specimens of crystals and rocks, or

(continued)

BOARD OF CONTROL (concluded)

lapidary work, and also where a member or guest can bring a rock or crystal for aid in identification, or even a picture that is outstanding.

The silent auction was discussed, to be held in November.

The president will be naming her committees within the next month.

There being no further business the meeting adjourned. The next meeting will be held at the home of the president.

Respectfully submitted,

Marion J. Jennings

TREASURER'S REPORT

Checking Account Balance, September 1, 1979 \$ 232.79

Deposits

Memberships	191.00
Coffee	10.46
Donations	3.00
Total deposits	204.46

Less:

West Michigan Mailers	8.20
R. E. Beauvais	
Newsletters (AFMS)	33.40
Stencils	6.94
Paper (Drifter)	42.40
Marie Duprey (Park permits)	30.00
	<u>120.94</u>
Check Account Balance	<u>316.31</u>
Savings Account	158.22
Interest	21.44
	<u>179.66</u>
Memorial Fund	294.39
Interest	37.55
	<u>331.94</u>
Total all accounts	\$ <u>827.91</u>

T. R. Duprey, Treasurer

Experience is what causes a rockhound who has made the same mistake twice to bust up the third mistake and put it in his tumbler.

-AGATEER via OZARK EARTH SCIENCE NEWS

(continued)

SILVER BEARING COPPER FOR MICHIGAN'S STATE MINERAL

by Larry Lemanski

Mention the word "copper" and chances are you'll have the attention of any Michigan Rockhounds within earshot. Talk about old mine locations you've visited in the Keweenaw Peninsula, or better yet, propose a trip to one, and those same Rockhounds who were straining to hear you before will probably crowd around with even greater interest. It seems that, here in Michigan, native copper lays claim to a mystique of adventure and attractiveness few other minerals in the state enjoy. Its rich history and intrinsic beauty captivate all who seek it, so much so that they seem to pursue it with an intensity which rivals gold fever.

Silver-bearing copper is unique to Michigan and exists here in significant quantities. This alone justifies it for the position of State Mineral. Historically, the discovery of massive amounts of this form of copper generated the nation's first mining boom as well as being its first great copper strike. In economic terms, records from 1890 to 1968 show over 10½ billion pounds of this mineral extracted, representing a value of over 1 3/4 billion dollars.

It is proposed that the CMI&MS initiate an effort to designate silver-bearing native copper as Michigan's State Mineral. If successful, this form of copper will join the Petoskey Stone and Isle Royale Greenstone in a geological triad eminently representative of our state. Members will learn more of this project and will have an opportunity to show their support at the June Meeting.

-ROCKHOUND NEWS (June 1979)

Doesn't this sound like a good idea!

SHARING THE NEWS.

Ted and Marie Duprey, John and Marge Potter, Bob and Ruth Beauvais displayed part of their collections at the Tulip City Club show in September. Bill and Nancy Ammerman of the Indian Mounds Rock and Mineral Club also had a case there. Among those that were seen at the show were Rick and Pat O'Beshaw, Herm Prins and friend, and Jim Vander-Mey. Leon and Naida House of Indian Mounds Club were there, too. Also Charlie and Delores Sparks of our club. Don and Mabel Bowers, Art and Dorothy Ferguson were there, too, we've been told.

June Smith returned home from a trip to Florida in time to chair her first meeting, bringing her father with her. They have just come back from a short trip to Toronto.

Arnie Wendt is home from the hospital and improving every day.

It was good to see Arnie Ballast, who has been ill, at our last meeting. Also Bob Smith (Dr.) coming with his unique crutches.

Pat O'Beshaw says she and Rick will be joining in the March of Dimes "Super Walk" on October 20. This will be 15 miles on a circular route thru Grand Rapids, starting from the Civic Auditorium. Pat will be looking for people to pledge so much per mile for this walk at our meeting. Help her out! Are you joining her, Rick?

Coming in November will be our annual silent auction. Better start looking over your rocks, slabs, etc. and picking them out for the sale. As usual, 50 % of the selling price will come back to you if you so wish. Remember that this is our only money-making effort through the year so we need the cooperation of everyone!

Have you reached the METALLIC age? Iron-poor blood, gold in your teeth, silver in your hair, and lead in your pants.

-PEBBLE PUSHER, et. al

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DO YOU KNOW THE DIFFERENCE?

A SYNTHETIC gemstone is one that has the same chemical composition, crystal structure, and consequently, the same physical and optical properties as those of the natural gem it represents.

Since the physical properties of a synthetic stone are the same as the genuine counterpart, detection is often times difficult. Some of the commercial synthetics most often seen are corundum, spinel, emerald, rutile, or titania, and opal (Gilson). Since identification is difficult, a buyer should always buy from sources he can depend on.

IMITATION means anything that resembles the natural gem regardless of chemical, structural or other physical properties. Often imitation stones are referred to as "simulated" stones. A very good example of an imitation gemstone is "Opal Essence" or better known to the lapidary market as Slocum Stone.

To review the definition simply, a synthetic gemstone has the same physical, chemical and structural properties as a genuine stone, whereas an imitation or simulated gemstone only looks like a genuine gemstone but does not have the same physical, structural and chemical properties.

- GEMS via REAR TRUNK

There once was a rockhound name Schwartz
Who pounded, bare-eyed on some quartz;
Now he sees in a fog,
And is led by a dog;
He can't watch the news or the sports.

- ROCK TRAIL via STAR-O-LITE

REMEMBER THESE COMING SHOWS! Detroit, Oct. 12-14, Lansing, Oct. 19-21 and Bay City, Nov. 3-4. Details are in your September issue - weight restrictions and postage rates prevent us from reprinting them here.

Midwest Federations NEWSLETTER

Published monthly except July and August as a service to member clubs. All news, articles, subscription orders and requests for information should be sent to the Editor, Haydon Peterson, Parrot Printing, 2125 Forest Ave., Des Moines, Iowa 50311

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October 1979 - Issue No. 179

I-80 to Lincoln in '80

It is not too soon to start planning for the next American Federation Show, which is also the Midwest Federation show, and will be hosted for the second time by the Lincoln Gem and Mineral Club, Inc. of Lincoln, Nebraska.

Well located near the center of the nation, Lincoln is the Capital of Nebraska and home of the University of Nebraska with its exceptional museum. The show will be held in the spacious new Bob Devaney Sports Center, and the elegant Nebraska Center has been chosen for meetings and special events.

The enthusiastic Lincoln members are already planning new educational and fun features for the big show including seminars and symposiums on all favorite aspects of the hobby. The Hall of States will be a highlight, along with displays from top museums, collectors, and artists. A swap area and an auction for the AFMS Scholarship fund are planned.

Demonstrations will include faceting, silversmithing, polishing, tumbling, wire work, sand pouring, fossil preparation, casting, glass blowing, micromounting, and all aspects of the hobby. Manufacturers will demonstrate the newest and best in equipment. A representative group of retail and wholesale dealers are being selected.

Slide programs, films and lectures will be by well known writers, curators, field collectors, educators, importers and artists. Committees are already planning special events such as the awards banquet.

Show Chairman, Howard Taylor, says that several excellent surprises will be in store for visitors to the show, which is scheduled for June 12-15.

Plenty of nearby camping space is available, and there are many fine motels conveniently located to the show building. Lincoln is served by Amtrak, by major airlines, and by America's popular super highway, Interstate 80.

YOUR SUPPORT IS NEEDED

Midwest State Director for Wisconsin, Bill Parch, announced at Columbus, that an amendment has been introduced to the Federal Mine Safety and Health Act. The MSHA of 1977 has cut off most of the gravel and stone quarries to our members, adversely affecting our entire hobby. The amendment, "H.R. 1603", if passed would exempt stone, sand and gravel operations from provisions of MSHA, which was originally to have been only for coal mines and underground mines. Several quarries have asked for our support of the amendment.

Backed by a large number of Congressional sponsors, from many states, the amendment might restore our collecting privileges. Everyone interested in field trips should write his congressmen supporting this amendment. (Families and friends should write too.) Individual letters should be polite and limited to the one subject. The more letters we send, the better our chance of reversing this legislation which has restricted our activities.

MIDWEST AND OHIO CLUB WIN AFMS AWARDS IN TAMPA

At the National Show in Tampa special awards were given for the society and for the Federation which had the most competitive displays, with the exception of the host Eastern Federation.

The Midwest Federation won the American Federation's \$100 award for the most competitive displays and the Roehm Geology Club, Berea, Ohio won the \$100 award for having the most

4 CLUBS ADVANCE IN SCHOLARSHIP STANDINGS

By Katharine Steinbrenner, Scholarship Chairman

During the month following the beautiful and successful Columbus Show and Convention last July, almost \$500 has been contributed to the Scholarship Foundation from ten Midwest Federation Clubs. Through their generous checks the following clubs have advanced their Scholarship Status:

Peru Rocks and Minerals Club 3100%, McDonnell-Douglas Gem & Mineral Society 600%, Lapeer County Gem & Mineral Society 600%, Little Crow Lapidary and Mineral Society 100%

At the Council Meeting in Columbus it was decided to have our second Scholarship Auction at the Midwest-National Show in 1980 in Lincoln, Nebraska. More details on this will be given at a later date. It is not too early to put aside specimens, cabachons or jewelry for your club to bring to this auction. It is an easy way for your club to advance their Scholarship Status.

displays from a single club.

At Columbus, Ohio during the Midwest Show and Convention, the Board of Directors of the Midwest voted to give the Midwest's \$100 award to the Roehm Geology Club since it was thru their efforts that the Midwest had received their \$100 award.

The Roehm Geology Club has advised the Midwest that they will use the \$200 toward the purchase of a microscope.

**SAFETY IS NO ACCIDENT....
DRIVE WITH CARE EVERYWHERE**

CALENDAR OF EVENTS NEEDED EARLY AS POSSIBLE

Because the MWF Directory is distributed early in March the Calendar of Events should contain listings from March 1980 through AT LEAST March 1981. We are glad to list your club's show, swap, auction, field trip or other event. Because we want the 1980-81 Calendar to be as complete as possible, we ask your help now. As soon as your dates are set, let us know the following:

Event (if show, competitive or non-competitive displays?), Dates (Time to meet, if trip), Place, and Chairman or person to contact for further information.

If your event is scheduled for January through April, give us the 1981 information too. If the exact date isn't known, but the event is generally at the same time each year, something like "early March" or "usually 3rd weekend in February" can be used.

Send your dates directly to Diane Dare, Directory Chairman, 747 E. Blackford Ave., Evansville, IN 47713, or Calendar Chairman, Elsie Popejoy, 410 Grant St., Normal, IL 61761.

MIDWEST NOW HAS OFFICIAL MAGAZINE

At the Council Meeting at Columbus a unanimous vote made "Rocks and Minerals" the official magazine of the Midwest Federation. Published in Washington D.C. by Heldref Publications, the magazine, founded by Peter Vodac over 50 years ago, is also the official magazine of the Eastern Federation.

Marie Huizing of Cincinnati is Managing Editor and is assisted by an impressive staff of executive and contributing editors. The by-monthly magazine has feature articles about minerals, rocks, fossils, gems and geology, and regular features such as mineral localities. Subscriptions are \$10.00 per year. The address is 4000 Albemarle St., N.W., Washington, D.C. 20016.

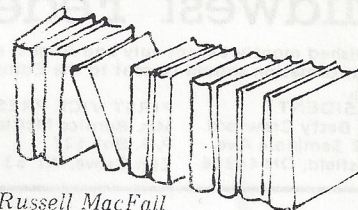
Previously the Midwest Federation was represented by the "Earth Science Magazine", published by ESCONI Associates of the Chicago area, with Mary Cornwell as Editor. However several years ago the affiliation was dropped when Dr. Richard Pearl purchased the magazine and moved it headquarters to Colorado Springs. Dr. Ben Hur Wilson founder of the Midwest Federation and it's honorary president was once Editor of "Earth Science".

Marie plans a special Official Show Issue for the Midwest-American Federation show and convention at Lincoln, Nebraska next summer. Rocks and Minerals was represented by a booth at the show at Columbus, and Mrs. Huizing appeared at meetings to answer questions. The Midwest looks forward to a long and useful affiliation with "Rocks and Minerals".

OPERATIONS MANUAL

The new Operations Manual for the Executive Committee of the Midwest Federation has been completed and is being distributed by mail to Officers, Committee Chairmen and State Directors and assistants who did not get their copies at the meeting in Columbus. Clubs which have any questions about operations procedures, such as bidding for shows, for example, should see their State Directors or Assistant for their club. The President of a society may write for a copy for his club if desired. They are available through the Director of Supplies. Copies are considered Federation property and not individual property and so are passed on to new officers, chairmen, directors, and appropriate permanent club officials if the club has a copy.

BOOKS



By Russell MacFall

This occasional column in the Newsletter has been reviewing books about minerals for some time; perhaps it is time now to get it out of the rut. So it will mention this time Francis E. Wylie's **Tides and the Pull of the Moon**, published by the Stephen Greene Press of Brattleboro, Vt.

Most of us know less about the oceans and their tides than about any other aspect of physical geology. Yet these forces, powered by the attraction of the moon and sun, have a complex and major influence on life on this planet. Wylie explains the vocabulary of the science in his preliminary chapters, then gives a detailed account of the causes of the coastal storms that have ravaged the continent periodically, the nature of tsunamis, often called tidal waves, and the little-known pull of the moon and sun on the body of the earth itself and its atmosphere.

In later chapters he studies the influence of tides on marine life, the fish and shellfish; the tides that baffled Caesar's invasion of Britain and were a major problem in planning the invasion of France in World War II. Finally he speaks about tidal power and its problematical future.

So far as this reviewer knows, no one has brought these subjects to the laymen as well as Wylie. He was well prepared for the task as a former Time and Life magazine correspondent and later public relations director for Massachusetts Institute of Technology. He is a coastal dweller at Hingham, Mass. The book has 246 pages and the price is \$12.95.

A small pamphlet on rocks and minerals of Minnesota may be had from the Minnesota Department of Economic Development, 480 Cedar St., St. Paul, Minn. 55101. It is free.

HEART ATTACK FATAL TO OHIO ASSISTANT STATE DIRECTOR

J. Robert "Bob" Little, one of our Assistant State Directors for Ohio died of a heart attack suffered August 25. He was a member of the Licking County Rock and Mineral Society of Newark, Ohio.

LEARN AS YOU COLLECT

By Jack La Fleur

President, Golden Spike Gem and Mineral, Ogden, Utah

Mineral identification (especially to new members) has long been a problem. In my book though, to be a successful rockhound, you don't have to know the names of all rocks. You only need to know and identify the rocks you come in contact with, or plan to use or acquire. This certainly narrows it down. In other words, if you like a certain rock and want to acquire it, first find out what it is and where it comes from, and just a bit about its make up, such as color, hardness and cleavage or chipping characteristics. This way, you will not forget its essentials. If you pick up a strange rock, apply the same treatment. You're simply building a mineral vocabulary as you go along. As time goes by, you not only will know what every rock is in your possession, but you will also know how to treat them and what you can do with them. Soon, the problem of identification will disappear because you will have learned as you go.

GRAND RAPIDS MINERAL SOCIETY
INTEREST QUESTIONNAIRE

Please answer the following questions. The information will help your president and board to plan more intelligently the activities of the club. Please bring yours to our next meeting--or mail it to me.

-June

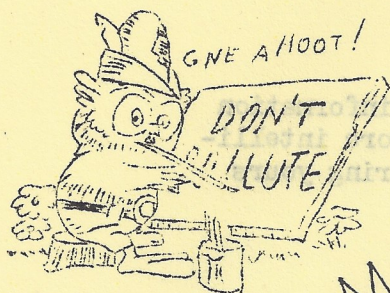
1. What are your special interests?
2. What kind of programs would you like to have at our meetings?
3. What types of field trips would you participate in?
4. Can you think of any ways that we can interest others in our organization?
5. Have you any ideas for making our club a better one?
6. Would you rather have our regular meetings in the garden room (where we met in September) rather than the Multi-purpose room where we have always met in the past?
7. Name one idea for a theme for our annual show:

R. & R. Beauvais, Editors
3308 Wilson SW
Grandville, MI 49418

THE GLACIAL BRETHREN

October 1979

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