

DUES ARE DUE

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THE GLACIAL DRIFTER  
BULLETIN OF THE GRAND RAPIDS MINERAL SOCIETY  
GRAND RAPIDS, MICHIGAN

Volume 35

October 1992

Number 2

## CLUB CALENDAR OF EVENTS

Wednesday, Oct. 7 7:00 p.m. Regular meeting at Grand Rapids Community College in Room 247 - Geology Department. The program will begin with a short video on scrimshaw on datolite. Then we will have two videos from the GRCC Geology Dept. library: "Down to Earth" and "Earth Becoming Alive." If you heard Dr. TenBrink at the Indian Mounds Club in September, these are two of the series he mentioned.

## PLACES TO GO - THINGS TO DO

Oct. 9-11	Show	Detroit, MI by Michigan Mineralogical Society; "Everything Old is New Again" Detroit Light Guard Armory. 4400 E. 8 Mile Rd. Fri. 9-7; Sat. 10-9; Sun. 10-6.
Oct. 17-18	Show	Fort Wayne, IN by Three Rivers Gem & Mineral Club; Allen County 4H Fairgrounds 2726 Carroll Rd. Sat. 10-7; Sun. 10-5
Oct. 23-25	Show	Lansing, MI by Central Michigan Lapidary & Mineral Society; Marshall St. Armory, between Michigan Ave. & Saginaw St.
Oct. 30-Nov. 1	Show	Dearborn MI. 1992 Midwest Faceters Fair - Gem & Jewelry Show, Dearborn Civic Center Michigan at Greenfield. Fri. 6-9 p.m.; Sat. 10 a.m.-6 p.m.; Sun. 10 a.m.-5 p.m.

COMING IN AUGUST, 1993: MWF Field Trip Convention, Houghton, MI and the Keweenaw Peninsula

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With this issue you will find a membership blank. Dues for the coming year are due now. Please bring it and your check to the October meeting or mail it to our treasurer.

Did you notice the stamp on this issue? It's the new mineral stamp which was issued in September. And, speaking of stamps, remember we are still saving used stamps for the AFMS Endowment Fund. Cut them with at 1/4 inch border; make sure none of the perforations are damaged.



## CRYSTAL GAZING----The President's Page

Here it is, September 30, and we are still having unseasonal weather! There would have been frost on the pumpkins a couple of nights ago, if we had been growing them out there!

Did you know that minerals were "awesome", "wierd", "neat", "cool" "out of this world" and "strange"? Ted Duprey and I had fun at the Tulip City show, listening to the comments from third grade through junior high students as they looked through the microscopes at our tiny minerals. There were several other curious expressions uttered, but my memory fails me about them. Of course, there were a number of "amazing"s, "beautiful"s, "are they natural?"s and "wow!"s as well. We enjoyed it. The Holland club was host to about 1500 school children on the first day of their show, something they have been doing for a number of years. Ted and I will be doing our thing again in October at the Lansing show, where they also will host busloads of students on their first show day.

If you have not taken the time to pick up a sheet or two of the MINERALS USA stamps, better do it now while they are still available. The minerals pictured are:

Azurite	Copper Queen Mine, Arizona
Copper	Keweenaw Peninsula, <u>Michigan</u>
Variscite	Fairfield, Utah
Wulfenite	Red Cloud Mine, Arizona

There is a movement presently in the works to have a set of fossil stamps designed and issued. If you are interested in promoting this, write to:

U.S. POSTAL SERVICE  
CITIZENS STAMP ADVISORY COMMITTEE  
ROOM 5800  
475 L'ENFANT PLAZA WEST, S.W.  
WASHINGTON, D.C. 20260 6352

Suggestions have been put forth: three animal and one plant fossil; possibly ammonite, brachiopod, crinoid, trilobite, coral and ferns. However, if you have a favorite fossil or two or more, feel free to mention them in your letter.

We goofed in last month's Drifter by not letting you know who was elected to what office at the MWF convention. Officers elected were as follows:

President	Kathy Miller, South Bend, Indiana
First Vice President	Marve Starbuck, Vicksburg, Michigan
Second Vice President	Anne Cook, Cleveland Heights, Ohio
Secretary	Jean Reynolds, Clarendon Hills, Illinois
Treasurer	Norm Hanschu, Canton, Michigan

I hope to see all of you this coming Wednesday.

Bob



MINERALS FIFTY YEARS AGO - SEPTEMBER 1942

## URANIUM

By Diane Dare

Fifty years ago German U-Boats were attacking off Trinidad, Rommel's Afrika Korps was short of supplies and being pommelled by the RAF, Japanese were on Guadalcanal and German troops in Stalingrad. American bombers attacked the Japanese-held island of Kiska in the Aleutians, the British took Madagascar, and Australians went after the Japanese on New Guinea. It truly was a "world" war.

After getting advice from Einstein, President Roosevelt had set up the Advisory Committee on Uranium in October 1939. At this stage research was moving very slowly. The British Maud Committee was set up in April 1940, and their work was proceeding more quickly. In June 1941 they reported it might be possible to make an atomic bomb using isotope Uranium-235. A year later, in June 1942, Roosevelt and Churchill agreed that Britain and the United States would share atomic research knowledge and that for the present, the work should be concentrated in the U.S.

On September 17, all atomic research in the U.S. was placed under military control, with General Leslie Groves directing the program known as "Manhattan Project." While the general was not too familiar with atomic physics, he was very competent in dealing with all the bureaucratic problems encountered by scientific research. He selected Los Alamos for the project site, and arranged to purchase the uranium.

Rockhounds knew about uranium. In the 1940 edition of THE ROCK BOOK, the Fentons had described it: "A few years ago, an element was said to be a substance that could not be divided into anything simpler. Even then, however, it was known that such elements as uranium and radium could turn themselves into other things by shooting out some of their electrons. Man is now learning how to duplicate this achievement and someday may be able to produce elements as he wants them, as well as vast amounts of energy that are now unavailable. Thus every uranium atom that is 'split' releases 175,000,000 electron volts of energy."

Richard Pearl put it another way: "The complete fissioning of one pound of uranium-235 will release as much heat as 1,530 tons of coal." The Fentons went on to tell readers, "The uranium itself can be turned into barium, antimony, iodine and about a dozen other elements. Their production, however, requires special methods and apparatus that is available in only a few laboratories."

Radioactivity was something rockhounds also knew about, since this was the way the age of a rock could be determined. Anyone could understand the explanation given by the Fentons: "Each uranium atom shoots out a tiny amount of heat, six electrons, and eight alpha particles. The heat is lost, while the alpha particles capture electrons and become atoms of helium, the nonburning gas used in airships. The

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## URANIUM (continued)

remnant of the uranium atom is lead that weighs less than the ordinary kind and so can be recognized."

This was a rather amazing process. As Paul Desautels put it, "For centuries, alchemists had worked unsuccessfully at the transmutation of elements, trying to convert common metals into gold. All this time nature had been busy transmuting uranium into lead."

Wrote Pearl, "Atomic energy as spoken of today (1956) is really nuclear energy, for it is derived from the nucleus, which contains practically all the mass and energy of the atom."

Uranium has been around for awhile. It was discovered in 1789 in black pitchblende from the mines of Jachymov, Czechoslovakia, and was named for the recently-discovered planet Uranus. In 1896, Henri Becquerel had discovered radio-activity in pitchblende, and the Curies found radium in it in 1909. When atomic fission was discovered in 1939, uranium ores became important. The uranium minerals were the source of atomic power with all its military implications.

Upper Katanga in the Belgian Congo had the richest reserves of uranium in the world. Production was dominated by Union Miniere du Haut-Katanga, whose president was Edgar Sengier. Monsieur Sengier had been producing pitchblende from the mine at Shinkolobwe since 1921, the radium being what made it valuable. In 1939 he was secretly informed of the work being done in atomic fission by the Germans, and of the possibility that an atomic bomb might be made using uranium. The British were vitally concerned that no uranium should get into enemy hands.

Knowing the Congo might not be safe from Nazi invasion, Sengier assumed the responsibility for the shipment of over 1000 tons of his rich pitchblende ore to the United States, where, in 1940, it was stored in steel drums in a New York warehouse.

In 1942, Sengier was approached by a representative of the top-secret Manhattan Project, and asked if he could help them get uranium ore. His reply: "The ore is here in New York. I have been waiting for you."

(A side note -- in 1946, General Groves presented M. Sengier with the U.S. Medal for Merit, for his "wartime services in the realm of raw materials." But the thing that pleased Sengier most was when a new mineral, composed of uranium, vanadium, and copper, was named "sengierite")

The main uranium supply in the United States comes from the carnotite deposits in the Colorado Plateau region, and it continued to be a valuable resource. In a 1949 article on uranium prospecting, William Menzel wrote: "Everyone is aware of the present hysteria in the search

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## URANIUM (concluded)

for Uranium minerals, especially so since Uncle Sam is offering \$10,000 as a bonus for finding a deposit that will guarantee 20 tons of ore containing 20% or better of uranium oxide. Naturally this is an incentive for every prospector, vacationist, timber cruiser and others to be on the lookout for their mineralized regions and make a try for the bonus. The chief deterrent is the means of identifying the radio active minerals as few possess a Geiger counter which is really a must but the cost is prohibitive for the short time prospector." Menzel also said "The most likely radioactive minerals encountered will be carnotite, a yellowish mineral found in sandstones as well as in petrified wood."

Uranium is still in demand today. A recent Department of Energy paper notes that natural uranium is generally in two forms or isotopes - uranium-235 (U-235) and uranium -238 (U-238). Only about 0.7% of natural uranium is the U-235 kind. To be used as a nuclear fuel, the U-235 must be increased, or enriched, to about 3%.

The enrichment is done by a process of gaseous diffusion, and UF<sub>6</sub> is used for this. Uranium and fluorine are combined to form the UF<sub>6</sub> or

uranium hexafluoride. A solid at normal atmospheric temperatures, it is heated to a gaseous stage, then forced through a series of porous barriers. U-235 is slightly smaller in mass than U-238, so it passes through the barriers faster, resulting in an increase in the U-238 amount after each pass. Of course it takes thousands of these passes to obtain the uranium which is used as nuclear fuel in power-plants.

Today, fifty years after the Manhattan Project began, uranium is still a vitally important mineral for our country.

## REFERENCES:

- THE ROCK BOOK, Carroll Lane Fenton & Mildred Adams Fenton, 1940
- ROCKS AND MINERALS, Richard M. Pearl, 1956
- THE MINERAL KINGDOM, Paul E. Desautels, 1968
- SECRETS & SPIES: BEHIND-THE-SCENES STORIES OF WORLD WARD II, "Mystery Man of the A-Bomb," John Gunther, 1964
- THE WORLD ALMANAC OF WORLD WARD II, Ed. by Brigadier Peter Young, 1981
- Some Notes on Uranium Prospecting," Wm. E. Menzel, Marquette Geologists Assoc. bulletin, May 7, 1949
- ESCONI EARTH SCIENCE NEWS, (9/92)

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AFMS NEWS...This now comes in newspaper format, and at the meeting in Brunswick it was proposed that it be sent to every member of every club in the AFMS. After reading through the current issue, I would be in favor of this. There was so much information that there is no way I can relay it to you in this bulletin. Most of it concerns the meeting this summer and the business conducted.



MINUTES OF THE MEETING - September 2, 1992

The regular meeting of the Grand Rapids Mineral Society was called to order at 7:20 p.m. at Grand Rapids Community College by President Bob Beauvais. The minutes were approved as printed in the Drifter. The Treasurer's report for the year was read and approved.

Bob displayed the awards and memorabilia from the MWF Convention so members could view them after the meeting. Bob explained the insurance proposal. At the Midwest Convention a committee on Club Liability was directed to continue its investigation and report back to the Executive Committee at its fall meeting. All clubs were asked to send back a survey on their interest for the insurance. Bob was to send the Grand Rapids Mineral Club's survey back to the committee.

The Holland show is September 18-19 at the Holland Civic Center. If you would like to display, see Bob Beauvais, he has extra display cases you may use.

The Midwest Federation Convention for 1993 is scheduled for August 8-15 at Houghton, Michigan. This will be a field trip convention. There will be dorms available at the college, room and board is \$100. per person.

Meeting was adjourned.

Arlene King, Secretary

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For our September program we were transported (via video) to the Grand Canyon for a colorful, beautiful and exciting trip. There was another video available, and Ted Duprey has another, but time was limited so we could only see one, but it was very good.

At the Tulip City Show, Bob Beauvais and Ted Duprey were kept busy showing the public just how beautiful minerals can be under the microscope. It's fun to hear the "Ohs and aahs as the turntable reveals another specimen. The "blue ball" azurites usually are the favorites. Marie Duprey and Ruth Beauvais were busy demonstrating how to make gem trees and a number of show-goers were instructed and left proudly carrying the trees they made.

The Beauvais' managed to attend the Muskegon Show for the first time and found it a good one, good displays and good dealers, as did the Holland show.

There's another story to tell about a week-long trip to Arkansas and quartz digging, but that's for someone else to relate. (Crystal, are you listening?) This weekend will be spent at the Eddy Geology Center Arts Fair at Chelsea, with several of us representing the Indian Mounds Rock & Mineral Club.

LATE NEWS: We have just learned that Dorothy Waterman is a patient at Butterworth Hospital, Room 7029; phone 242-7213.



Grand Rapids Mineral Society members were saddened to learn of the sudden death of Art Ferguson on August 22. Art and his wife, Dorothy, were long time members of the club, and Art served as president and also as editor for several years. In recent years they had spent several months each year in Arizona. A card was sent from the club and Dorothy sends her thanks.

ABLE TO LIFT TALL BUILDINGS One of the buildings of the General Electric Laboratory at Nela Park, near Cleveland, Ohio, was built upon a layer of iron pyrite. When the mineral was exposed to air, it began to oxidize into rust. This rust was created at such a rate that the basement floors were lifted fifteen inches in fifteen years - an inch per year! The rust occupies more space than the pyrite and the chemical action taking place has enough power to lift a building.

-Via THE PETRIFIED DIGEST, and THE ROCKFINDER (9/92)

WINTER SHOP SAFETY Don't wear a new flannel shirt to keep warm. Dr. Sharp writes in the California Federation Newsletter, "I once did exactly that and lit up the torch to solder a bezel while wearing a new, warm flannel shirt (while working around an open flame.) Fortunately, my son was there. I felt him pat my arm and asked what was wrong. 'Just a little flame,' he said. Then he was patting my entire back. It seems that the nap of flannel shirts is very flammable. I haven't tried this on an old flannel shirt that has lost its fluffy nap and I probably won't. When I mentioned this to a welder who lived across the street he told me that all welders know that flannel burns. When you bundle up and go out and light that torch, do it in something other than flannel or you could end up with the fire department coming to watch."

-excerpted from an article in GEMS FROM THE REDWOODS (1/90)

via THE ROCK RATTLER (12/90)

#### HOW IMPORTANT IS ONE VOTE?

In 1645, one vote gave Oliver Cromwell control over England.

In 1649, one vote caused Charles I of England to be executed.

In 1776, one vote gave America the English language instead of German.

In 1845, one vote brought Texas into the union.

In 1868, one vote saved President Andrew Johnson from impeachment.

In 1875, one vote changed France from a monarchy to a republic.

In 1876, one vote gave Rutherford B. Hayes the Presidency of U.S.

In 1923, one vote gave Adolf Hitler leadership of the Nazi Party.

In 1941, one vote saved Selective Service -- just weeks before Pearl Harbor was attacked

This comes to us via THE ROCKFINDER (8/92) who took it from the CHIASTO-HI-LITES whose editor says: Since the elections will be coming up and many are known to say their "one" vote doesn't mean anything, we thought this might be worth printing. We agree!

Mexican "onyx" is actually banded travertine (calcite) not true onyx.



## TREASURER'S REPORT.....

Checking Account Sept. 9, 1991	\$ 662.07
Income: Memberships	+110.00
	<u>772.07</u>
Expense: 1991 Convention Delegates	
Steele 72.00 Beauvais 64.00	136.00
Mich. State Filing Fee	10.00
MWF Dues	23.00
Bank service charges	3.30
Bulletin Expense	
Postage	116.00
Covers	43.94
Stencils & Ink	88.19
Total Bulletin Expense	248.13
Programs: MWF Film	5.00
UPS chg.	1.91
W. Neal, speaker	25.00
Total Program Expense	31.91
Total Expense	<u>452.34</u>
Checking Account Sept. 1, 1992	\$ 319.73
Savings Account Sept. 1, 1991	930.42
Interest	30.68
Savings Account, Sept. 1, 1992	961.10
Scholarship Savings, Sept. 1, 1991	433.94
Interest	14.44
Scholarship Savings, Sept. 1, 1992	448.38
TOTAL OF ALL ACCOUNTS, Sept. 1, 1992	\$ 1,729.21

-Ted Duprey, Treas.

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BIRDS' NESTS OF VOLCANIC GLASS...At least three species of birds in Hawaii National Park are known to build their nests out of spun volcanic glass. Droplets of lava squirt into the air, then solidify into filaments known as "Pele's Hair." Thousands of the delicate fibers are used by the birds in building a single nest.

-From T-Town Rockhound and others (no dates)

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ALETA'S ROCK SHOP

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GRAND RAPIDS MINERAL SOCIETY  
Grand Rapids, Michigan  
Founded 1958

President	Robert Beauvais	534-3871
Vice-President	Val Katelnieks	874-6466
Secretary	Arlene King	532-6239
Treasurer	Ted Duprey	532-3841
Program Chairman	Rich Van Beek	459-3903
Historian/Librarian	Crystal Boogaart	451-3274
Past President	Donn Cuson	
Liaison Officer	Robert Beauvais	534-3871
Editor	Ruth Beauvais	534-3871
Publicity	Peter Boogaart	451-3274

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 on the first Wednesday of each month at 7 p.m. No formal meetings are held in January, February or March but informal meetings may be scheduled and members so advised. We meet in the Geology Department of the Grand Rapids Junior College (usually in Room 247), 143 Bostwick NE, Grand Rapids. Summer meetings (June, July, August) are held at various parks or at members' homes and are usually picnics beginning at 6:30 p.m.

Membership dues are \$8 per year for a family; \$6 per year for an individual member and \$4 per year for a student under age 18. Dues are payable to the treasurer in September of each year. Those joining from March 1 thru July 31 shall pay one-half the annual dues. Unpaid memberships will be dropped from the roll in December.

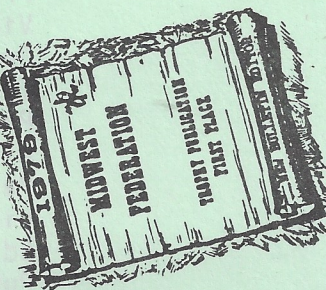
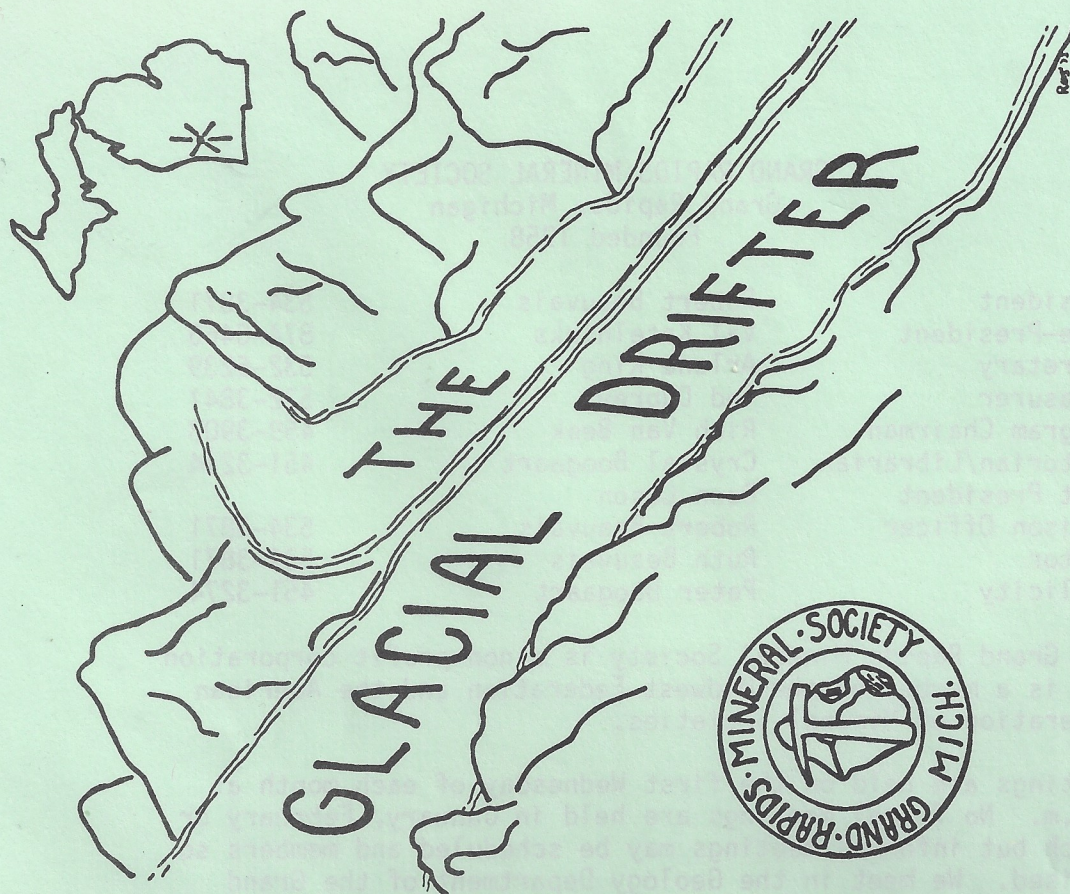
All material for publication shall be in the hands of the editor no later than the third Wednesday of the preceding month. Permission to reprint articles appearing in THE GLACIAL DRIFTER is hereby given provided proper credit is given. Advertising in THE GLACIAL DRIFTER is limited to a uniform size of one-third page at the rate of \$3 per issue. Each member is entitled to one free ad per year.

Exchange bulletins should be mailed to the editor.

We extend a cordial welcome to visitors at all of our meetings and encourage them to join or return whenever possible.



OCTOBER 1992



Grand Rapids Mineral Society  
Robert E. Beauvais  
3308 Wilson SW  
Grandville, MI 49418

FIRST CLASS

HERE'S YOUR GLACIAL DRIFTER!

M/M ROBERT E, BEAUVAIS  
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