

Michiana Gem & Mineral Society
Tom Noe, Editor
305 Napoleon Blvd.
South Bend, IN 46617

Metamorphic Rocks



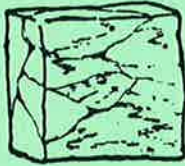
slate



schist



gneiss



marble



MICHIANA GEM & MINERAL SOCIETY

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The purpose of the Michiana Gem & Mineral Society is to promote the study and enjoyment of the earth sciences and the lapidary arts, and to share lapidary knowledge and techniques.

General meetings are held the fourth Sunday of each month, 2:00 PM, EST, at Our Redeemer Lutheran Church, 805 S. 29th St., South Bend, IN. Regular exceptions include May (third Sunday), June (field trip), July (no meeting), August (club picnic) and December (Christmas party). Board meetings are held before the general meetings. The annual club show is Labor Day weekend.

The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

The Rockfinder is published monthly except July and August. Staff: Editor, Tom Noe, 305 Napoleon Blvd., South Bend, IN 46617 (ph. 289-2028). Co-editor, Herb Luckert, 221 Marquette Ave., South Bend, IN 46617 (ph. 282-1354). Reporters, Bob Heinek, Herb Luckert, club members.

Permission is hereby granted to reprint any original *Rockfinder* articles, as long as due recognition is given along with the reprint.

Yearly Membership Dues (Payable by January 1)

_____ Individual \$10.00 per year
 _____ Family \$15.00 per year
 _____ Junior \$1.00 per year
 _____ Subscriber \$7.50 per year

(One-half these amounts after July 1)

Please indicate areas of special interest.

General Geology___ Beads___
 Gems & Minerals___ Fossils___
 Cabochons___ Field Trips___
 Faceting___ Crystals___
 Carving___ Micromounts___
 Other_____ Jewelry Making___

Name_____

Street_____

City,ST.,Zip_____

Please send your dues and this form to
 Michiana Gem & Mineral Society
 c/o Margaret Heinek
 7091 E. East Park Lane, New Carlisle, IN 46552

Additional names:

Name_____

BirthDay_____

Name_____

BirthDay_____

Name_____

BirthDay_____

Name_____

BirthDay_____

Date of Wedding Anniversary_____

Phone_____

PLEASE READ AND SIGN THIS SECTION:

With my signature I hereby release the Michiana Gem and Mineral Society, Inc., and its individual members and the owners of any premises upon which I enter under permit granted to the society, absolutely free of any liability whatsoever, to my person or my property, and further I will respect the equipment and property of the aforesaid owners.

Signed_____ Date_____

THE ROCKFINDER

Newsletter of the Michiana Gem & Mineral Society

Volume 39, Number 2

February, 1999

Next Meeting: Sunday, February 28

Doors open at 1:30 p.m.

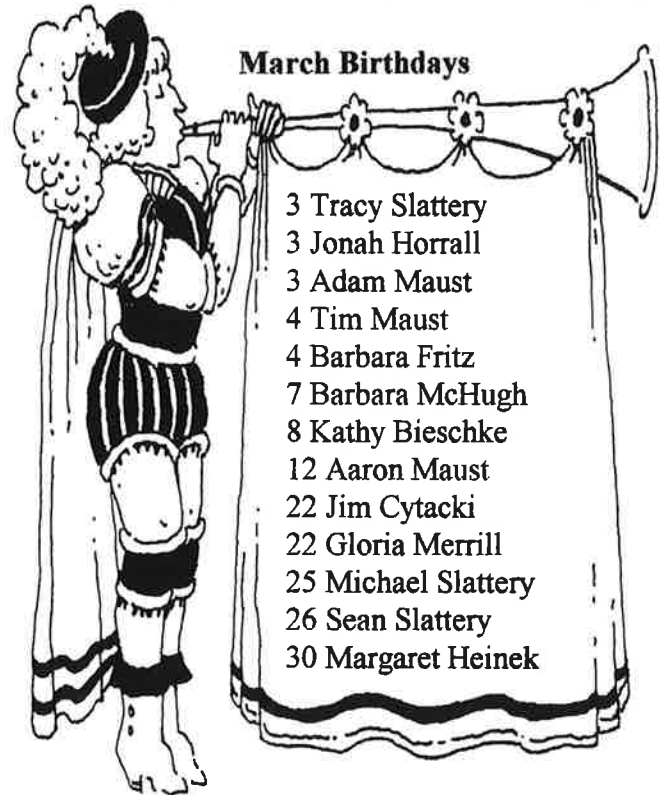
Meeting starts at 2:00 p.m.

Guests are always welcome.

Place: Our Redeemer Lutheran Church
805 S. 29th Street (29th & Wall)
South Bend, IN

February Hosts: Lois Krillenberg,
Tom Noe and Jessie Zeiger

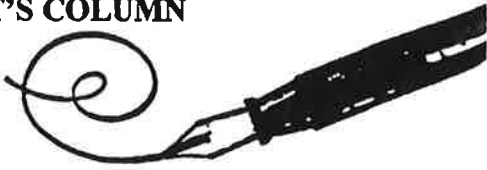
February program: Ed Miller will
bring in club memorabilia, photos,
etc., for some general reminiscing.
Bring your old photos and club
items along too!



UP AND COMING

- Feb. 26-28--Intergem show, Columbus, OH, Veterans Memorial.
- Mar. 5-7--Greater Cincinnati Show, Sharonville Convention Center, Sharonville, OH.
- Mar. 6-7--Auction of 1,500 lapidary items, Schoolcraft College, Livonia, MI.
- Mar. 12-14--Eastern Indiana show, Richmond, IN.
- Mar. 13-14-- Geodeland Show, Western Illinois University, Macomb, IL.
- Mar. 20-21--Stark Souty show, Canton Memorial Civic Center, North Canton, OH.
- Apr. 10-11--Central Ohio Show and Midwest Federation Convention and show. Veterans Memorial, Columbus, OH.
- Apr. 16-18--Wholesale show to gem trade, Troy (Detroit), MI.
- Apr. 16-18--Gem & mineral show, Mt. Clemens, MI.
- Aug. 8-13--Red Metal Retreat, Houghton, MI.
- Apr. 7--10--Indian Mounds show, Eastbrook Mall, Wyoming, MI.

MARGARET'S COLUMN



Last month it looked like we were in for an old-fashioned winter. We had our snow, then a fast thaw, even Hudson Lake lost its ice, and now another snowstorm is predicted. I sincerely hope we will have decent weather for our Feb. meeting. It is so nice to see club members, some which have not been in attendance for a while.

We had a good time at *Science Alive* this month. I understand there was about 7,000 in attendance. The largest the library has had in the last 7 years. Thanks to Phyllis Smallwood, Sally and David Peltz, Diane Gram, Tom Noe and Bob Heinek, for manning the Michiana Club booth. We gave out a lot of rock and polished stones.

Emily Johnson and Bill Jr. had a good booth featuring their honey and "bees". Bob and I did not get too much of a chance to really study their booth, but it looked "good".

Last month a suggestion was made that the Michiana Society could sponsor the St. Joseph Co. 4-H geology trophies. Bob and I checked with the 4-H office, and found that they do not have anyone that does this. Rick Podell, in charge of this phase of 4-H, said he would like to have plaques rather than trophies for the winners. I asked for a cost, and decided we could afford to buy them. Rick said it would be about \$5.00 for each one (I think there will be 6), and they will do the ordering of the plaques, do the lettering and then send us the bill. I sincerely hope this is OK with the club members. Rick seemed pleased that we are interested.

Would anyone in the club be willing to chair the Kiddies' Korner at the April show? Tom Noe is in charge of the Silent Auction and if the club wants it, there is room for the kiddie's wheel and giveaways. Let me know, so a committee can work it out.

The *Roster* is finished and will be available at the meeting. After it was printed we received several members' dues.

Please add to your copy:

Nick & Jan Pellus, 26642 Roseland,
Elkhart, IN 46514. (Birthdays 18/7-
7/9---23/4).

Ruth Amos, 930 Rose St.
South Bend, IN 46616
9/17

Are you saving your empty egg cartons, the plastic rings from soft drink cans, your small rocks and fossils for the grab bags for the shows? Mike Slattery will need help with this project. Remember that each booth makes money for the club to use for our educational projects, including the bus trip.

* * * * *

FOSSIL NOTES

New find of a living fossil

This past summer several Indonesian fishermen made a truly remarkable discovery. While gill-netting for sharks they accidentally caught a 4-foot-long, 70-pound caelacanth! This very rare "living" fossil had previously been found only off the coast of East Africa, an incredible 6,000 miles away. This important find has many ramifications about the range of this endangered species, and may ease fears about its demise. D.N.A. tests are to be conducted to check if this fish is actually the same species as the African ones.

Dinosaurs are always in the news, and this year has been no exception. Recent digs in China and Madagascar have uncovered several new species of bird-like dinosaurs that should help tie in the evolutionary relationship between dinosaurs and birds.

Thanks to Dr. John Grace, KGMS member
via MWF NEWSLETTER Jan 1999.

MINUTES OF THE JANUARY 24 MEETING

The meeting was called to order at 2:05 by President Margaret Heinek. Present were 20 adults, one junior and three guests: Margaret Majer, Barbara Steele and Kent Hoffman (who became a new member--welcome!).

Hosts Bob and Kathy Miller prepared the tables with (very) red decorations in anticipation of Valentine's Day, with an array of cookies and treats.

The minutes of the previous meeting were approved as printed in the Rockfinder.

Treasurer's report: By depositing checks into our savings account, we can avoid the 25 cent processing fee. As checks are written, money will be moved from savings into checking. A petty cash arrangement will be established to handle charges for hospitality. It is time to audit the books; Sr. Jeanne and Phyllis Smallwood volunteered to do this.

Program chair Ed Miller said he would bring in a selection of photographs and mementos from club activities for a future program. He suggested that we print in the Rockfinder a request for members to suggest ideas for future programs. He also suggested that the club could sponsor a trophy in some geology-related competition at the 4-H Fair. This could also promote junior memberships.

Margaret discussed our participation in Science Alive on February 5 and 6. Several members volunteered to help with this annual event for children.

Field trip report: Kathy Miller and Bonnie Brueseke have contacted motels and restaurants in the Oxford, OH, area in planning a trip the weekend of Sept. 24. After a description of the options, a motion to plan the trip was made by David Peltz and seconded by Sr. Jeanne. The motion passed. Kathy and Bonnie will

proceed to make reservations for the bus, motel and Saturday night meal at the campus. Club member Matt Brueseke, a graduate student in geology at the university, will look into fossil collecting sites and make arrangements for a tour of the geological museum on campus.

Kathy reminded members of the 25th Annual Rockhound Seminar, June 19 and 20, in Niles. Club member Bob Miller will be teaching a workshop on carving, and there will be many other hands-on classes in lapidary work. More information will appear in the Rockfinder.

Tom Noe listed the articles from the Rockfinder which he submitted to the Midwest Federation's bulletin contest: the humorous article by Bob and Margaret Heinek, the article by Pat McLaughlin on her fossil-hunting trip to southern Indiana, and Tom's poem on cycad fossils.

Tom also reported that he sent the two letters which the club mailed to Larry Macklin of the Indiana DNR on to Senator Joe Zakas, in hopes that we might be able to get a reply from Mr. Macklin.

Tom suggested that we think about setting up a table at one of the malls in order to generate interest in the club and to build up the mailing list for the show. A volunteer to arrange this is still needed, if the club wants to do it.

Door prizes were won by Bob Miller, Sally Peltz, Lois Killenburger and Sr. Jeanne.

The program was on pearls. Members brought in examples of pearl jewelry and single pearls.

Before we watched a video on pearls, our guest Barbara Steele gave us a short history of the pearl button industry in Indiana.

Margaret also reminded all members that dues must be paid immediately to insure listing on the club roster.

Submitted by
Gladys Pacholke, Secretary

ON THE ROAD AGAIN!

The Michiana Gem & Mineral Society has a Cardinal coach chartered for **September 24, 1999, through September 26, 1999.**

Our destination is once again Oxford, Ohio, and nearby areas. The field trip will be for **Ohio fossilized marine animals and Indiana Ordovician fossils.**

I have reserved a block of rooms at the Oxford Inn at a very reasonable rate, including a continental breakfast. This includes tax. As follows, per night; we will be staying two nights.

Room - 2 D.B. - \$57.98

Room - 1 King - \$50.17

I must stress that you reserve ASAP, as rooms are limited. Also, once you make this commitment, stick to it! If you would cancel even 3 or 4 wks. before and a replacement cannot be found, everyone else going may have to pay full price instead of a block rate.

Many thanks to Bonnie and Matthew Brueske for all the work they have done and are doing. Matthew has agreed to lead us to our collecting sites. Some may be the same as the last time we went and some may be new. Never fear, the collecting is great and you will not go home empty-handed. The specimens are all of good quality.

Bonnie Brueske has arranged a Saturday night dinner (buffet style) at the Miami University

Union with a room all our own. The menu is outstanding!

3 Entrees/2 Salads/4 Side dishes/2 Breads/2 Dessert
Coffee/Ice Tea (Beer and Wine are cash.)

The price for the buffet is \$12.95.

Sunday we will visit before collecting the Miami University Geology Museum. You won't want to miss this; it's outstanding.

We ask that when you make your reservation for both the motel and buffet, please make two separate checks to the Michiana Gem and Mineral Society. One for your room and one for the buffet. IF you are sharing a room with a friend, please send only ONE check; help our Treasurer!

IF the weather (we don't even want to think about it) is really bad that weekend we do have an alternate which is super too.

This is really a fantastic collecting place we are going to, the area is beautiful, and we couldn't ask for better fellowship. Looking forward to hearing from you.

Kathy & Bonnie

Send reservations and checks to
Kathy Miller
1106 Clayton Drive
South Bend, IN 46614



FIELD TRIP

Michigan's Iron Mines

Low-Grade Ore + High-Tech = Survival

For the 100 years following the opening of Michigan's first iron mine, the Jackson mine, in 1848, iron mining companies extracted only the high-grade ores — natural ores so rich in iron content that they could be transported directly to the blast furnaces. Low-grade ores, having an iron content of only about 30-35 percent were by-passed as unusable. (For comparison, the iron content of hematite is 70% and of magnetite is 72%.)

But in the mid-1950s, as the high-grade ore deposits were pinching out, threatening to end iron mining in the district, a new technology brought new life to the industry. That technology permitted the mining companies to use the vast preserves of low-grade ore through a process in which the ore is beneficiated into a high-grade iron ore concentrate.

Although only two iron mines continue to operate in Michigan—the Empire and Tilden—they have survived through the use of that technology and they have used it on a grand scale. The mines, both open pit, are located near Palmer (southeast of Ishpeming in Michigan's Upper Peninsula) and work the ore deposits of the Negaunee Iron Formation on the Marquette Iron Range.

The Tilden mines two ore types — magnetite and hematite — but its concentrating operation can process only one of these ores at a time. The Empire mines and processes only magnetite.

The concentrating process involves crushing and grinding the crude ore to the consistency of face powder, adding water to produce a slurry, separating the iron particles from the waste rock (the process differs depending on whether the ore is magnetite or hematite), and then dewatering the concentrated slurry of iron particles. The dewatered concentrate is rolled into uniform pellets after being mixed with a small amount of bentonite clay binder, and the pellets are then hardened in a rotary kiln at temperatures above 2,200 degrees Fahrenheit. The pellets have a diameter of about 3/8 inch, which greatly facilitates the handling and shipping of the product to the nation's steel mills.

Through the years the technology and mechanics of the process have been perfected and automated where possible, and computerized systems to monitor and control the process have been introduced.

Another important product improvement allows the iron pellets to be customized with the right mixture of fluxes (limestone and dolomite) to meet the specific demands of the steel producer. The use of pre-fluxed pellets speeds the steel-making process by eliminating the need to add fluxes at the steel mills.

In 1996 the Tilden and Empire mines in combination

produced 14,786,000 tons of pellets, requiring the combined removal of about 100 million tons of ore and rock from the mine pits. At the present production rate, the Tilden ore reserves will be exhausted by the year 2043 and the Empire by 2023, according to the Cleveland-Cliffs 1995 annual report to stockholders. Their mining operations are managed by Cleveland-Cliffs Inc. (Cleveland-Cliffs shares ownership of the mines with several other corporations.)

REFERENCES:

- ◆ *Annual Report (1995)*, Cleveland-Cliffs, Inc
- ◆ *Empire Iron Mining Partnership* (Booklet), Cleveland-Cliffs, Inc
- ◆ Iron Industry Museum Exhibit, Negaunee, Mich.
- ◆ *The Mineralogy of Michigan*, E. Wm. Heinrich. Michigan Department of Natural Resources, 1976.
- ◆ *Tilden Mine* (Booklet), Cleveland-Cliffs, Inc

— Walt Vogtmann, The ROCKPILE May 1997

DUMB QUESTIONS ASKED BY TOURISTS OF PARK EMPLOYEES

Compiled by Alan Silverstein, from material in *Outside Magazine*, May 1995, 120-21, postings to rec.backcountry newsgroup, and other sources. Contact Alan at ajs@hpfcajs.hp.com for any specific information on sources.

Mammoth Cave

- * How much of Mammoth Cave is underground?

Carlsbad National Caverns

- * How much of this cave is underground?
- * What's in the unexplored part of the cave?
- * Does it ever rain in here?
- * How many Ping-Pong balls would it take to fill this up?
- * So what is this, just a hole in the ground?

NAME YOUR PROGRAM, PARDNER

Program chair Ed Miller is asking for suggestions from members as he schedules upcoming programs. What activities or presentations would you like to see at the meetings? If you would like to see a program on a particular topic, let Ed know and he'll work on getting it. You can call him at 498-6513.

Columbus OH

Midwest Federation Show / Central Ohio Mineral,
Fossil, Gem & Jewelry Show / Friends of
Mineralogy Symposium

April 10 - 11, 1999

Theme: Heaven's Stones & Dinosaur bones:
Meteorites & Mass Extinction

Adults: \$4, youth (6-16) \$1, under 6 and scouts in
uniform-free.

To register for the Symposium(separate charge),
phone Dr. Earl Carlson, 330-672-2680 or email
ecarlson@gelology.kent.edu.

WHAT TO EXPECT AT THE SHOW

- Lectures: "Rocks from Space," "The Extinction of the Dinosaurs."
- 38 dealers
- Demonstrations of metalsmithing, gemstone polishing and faceting
- Exhibits from museums, private collections and educational institutions
- Silent auction
- Swap area
- Children's area
- Free identification of fossils, minerals, etc.
- Midwest Federation Business meeting for delegates
- Friends of Mineralogy Symposium (separate registration)

ALAA UPDATE

The Bureau of Land Management is now proposing a limit on collecting invertebrate fossils without a permit. On public lands administered by the BLM, the limit would be 25 pounds removed per day per person. The matrix would be included in the pound limit. This proposed rule would be similar to an existing rule covering the collection of petrified wood (25 pounds plus one extra piece).

The BLM is asking for public comments on the new regulation, and invites suggestions on ways they can limit the collecting of fossils. You can send any comments you may have to:

Bureau of Land Management Administrative Record
Room 401, LS
1849 C. Street NW
Washington, DC 20240

Note that this rule covers not vertebrate fossils but invertebrate, of which there are vast numbers. Also, note that the pound limit will encourage collectors to break up specimens in the field, thus increasing the likelihood of damage to a fossil. (It doesn't take long to gather up 25 pounds of rock.) In the past, there has been no limit on invertebrate collecting.

Your attention is also drawn to the fact that in 1999 ALAA will probably be introducing into Congress the Rock and Mineral Collecting Act and the Fossil Preservation Act. This will define collecting rights on public lands before they are regulated out of existence.

A Moment To Laugh

some rockhound humor

There once was a rock hunter from
Anaheim

Who hunted for rocks all the time
When asked, "Why so many?"
He replied, "Must have plenty,
For tomorrow it may be a crime!"

From Beehive Buzzer (Utah) via Rockhound
News, 11/96.



Earth's Hidden Treasures ®

5517 Christian Drive Fort Wayne, IN 486-4922

INVENTORY CLEARANCE SALE

ONE DAY ONLY MARCH 6th 9AM-5PM

ALL CLEARANCE ITEMS 50% TO 90% OFF

(does not include equipment which is sold at cost)

Insects in amber 50% off

Cave-In-Rock fluorite 25¢ & up

Quartz crystals from Peru 50-75% off

Colbaltan calcite 50% off

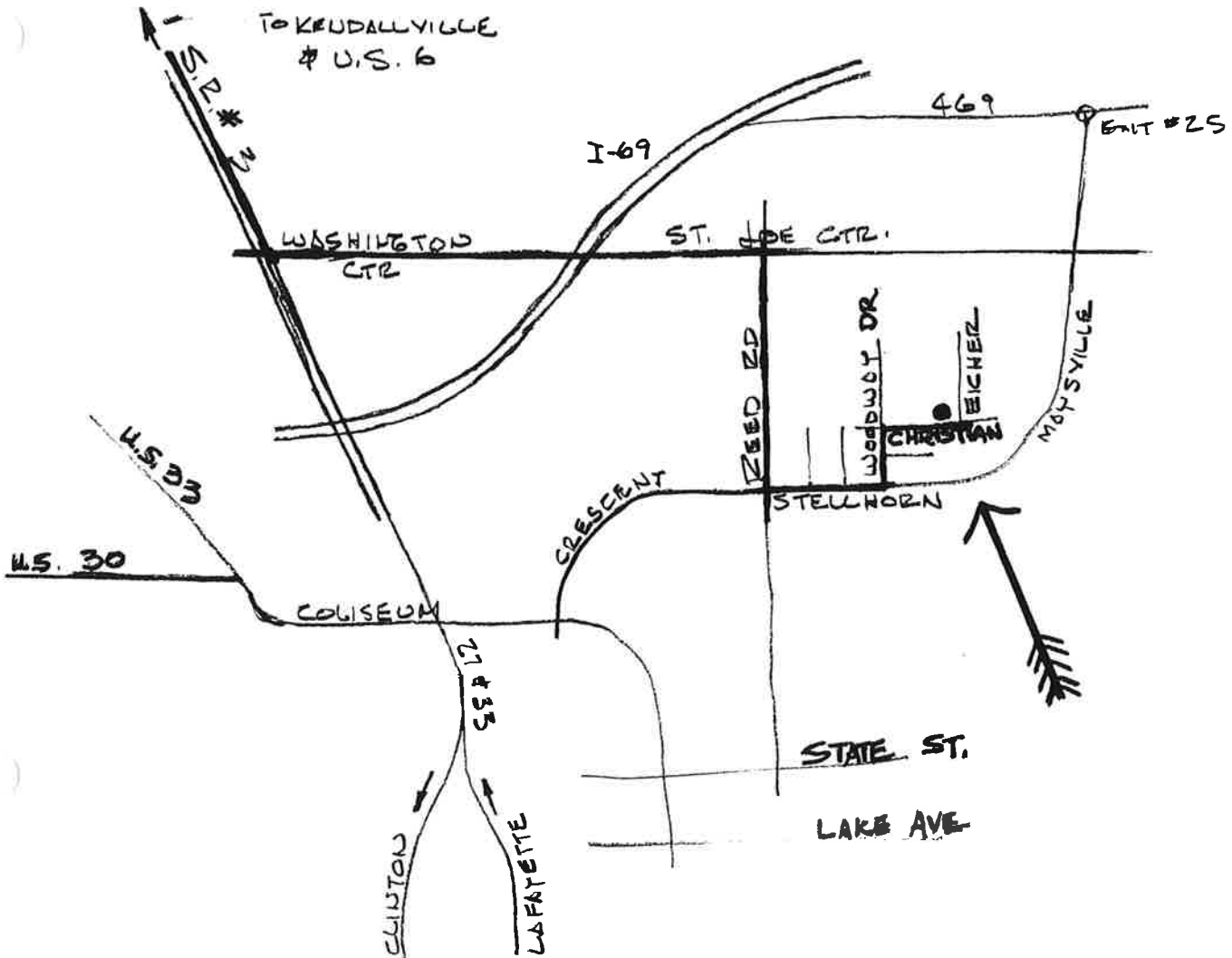
Cutting rough 25 lb. lots \$5 & under

Ultraviolet lamp only \$40 lists \$73

NEW 15 in. vibrating lap only \$310.00 lists \$495

THESE ARE JUST A FEW OF THE OF THE 1000'S OF SALE ITEMS AVAILABLE.

*****COME EARLY FOR THE BEST SELECTION!!!*****



FOR SALE--A lapidary set-up, all you need to get started. Includes an 8" slab/trim saw with motor, a combination unit with an 8" polishing pad, 2 grinding wheels (1-1/2") and two sanding drums (3"), plus a couple of boxes of cutting material, a ring sizer, cab profiler, extra sanding belts, etc. Call Pam Rubenstein at 291-7183. Price is \$150 for all.

FOR SALE: Contact Elmer Cripe at 219-533-1683 (18010 County Road 40, Goshen). Diamond drill; cone-shaped polisher for inside rings; slabs @ \$3/#; turrutella agate @ \$1/#; jade at \$3/#; grit @ \$1/#; plus other cutting material.

ITEMS FOR SALE---Contact Don Carpenter in Niles (684-0031)

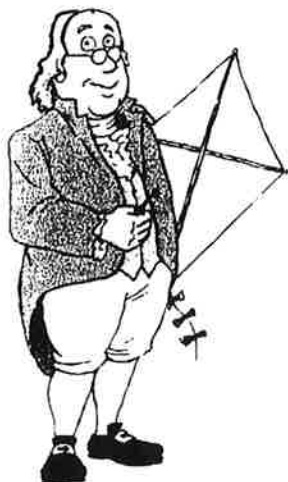
16" slab saw with lots of blade left, gravity feed, home-made by tool & die maker. (\$250); vibrating lap with 10" pan (purchased) and home-made machine (\$25); Craftsman rotating lap with polishing attachments. These all have motors. He also has Kona dolomite (large pieces), Petoskey stones, Brazilian agate slabs, palmwood and miscellaneous rocks in a storage bin with drawers. Everything for sale!

THE PRESIDENT

A 5,805 carat emerald has been found in Russia's Ural Mountains. It has been named "the President" for President Boris Yeltsin. The 2 ½ pound stone has excellent color and clarity and may be one of the most valuable emeralds ever from Russia. Initial appraisal placed its value at 1.5 million dollars. It will likely be a museum piece rather than being cut.

Via **Breccia** and **A.F.M.S. Newsletter** 10/98

GOOD OLD BEN!!



Ben Franklin set a large tourmaline in a pivot ring so that either side could be turned outward. He then noted a curious phenomenon when he wore it--the heat from his finger caused the stone to attract light objects. He had a magnet on his finger. The heat was giving the stone an electrical charge.

We now know that tourmaline transcends all stones in this quality, known as pyroelectricity. When warmed, one end becomes charged with positive electrons and the other end acquires a negative charge. When the stone cools, the charges are reversed.

Via **Template** and **Rock Rollers** 1/98