

THE ROCKFINDER

Highlights of this issue ---

Page Number

Goldstone

4

The Brilliance of Beryl by Jeffrey Scovil

5

Another Pair of Eyes - Part 2 by Thomas S. Warren

7

Computerizing Your Collection Part 2 by Paul Godollei

8

*Larry Hess, Editor
Michiana Gem & Mineral Society
15358 Kerlin Drive
Granger, IN 46530*

*** * * NOTICE * * ***

Your annual MGM

DUES

are due.

***Please return the
form on the back
side back of this
cover sheet.***

MICHIANA GEM and MINERAL SOCIETY

1993 BOARD OF DIRECTORS

President	---- Margaret Heinek	7091 E East Park Ln, New Carlisle IN 46552
Vice Pres	---- Larry Hess	15358 Kerlin Dr, Granger IN 46530
Secretary	---- Pam Rubenstein	1316 Catherwood Dr, South Bend 46614
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Liaison	---- Paul Godollei	1910 Ribourde Dr, South Bend IN 46628
Past Pres	---- James Russell	27911 North St, North Liberty IN 46554

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Sunshine	---	Molly Elwell	105 N Ironwood Dr, South Bend IN 46615
Display	---	Mary Miller	451 S Illinois St, South Bend IN 46619
Publicity	---	Dawn Cytacki	1606 E Madison St, South Bend IN 46617
Membership	---	All Members	

The Michiana Gem & Mineral Society, a non-profit organization, is affiliated with the Midwest Federation of Mineralogical and Geological Societies and with the American Federation of Mineralogical Societies.

Regular Meetings

Time:	2:00 PM EST	Place:	Wesminster Presbyterian Church
	4th Sunday of each month		1501 W Cleveland Road
	June - Field Trip Meeting		South Bend IN
	July - No meeting		just west of the St Joseph River
	August - Annual Club Picnic		
	December - Christmas Party		

ROCKFINDER STAFF

Editor	Larry Hess	15358 Kerlin Dr, Granger IN 46530
Co-Editor	Margaret Heinek	7091 E East Park Ln, New Carlisle IN 46552
Staff	Bob Heinek / Club Members	

All contributions for publication should be in the hands of the Editor by the 10th of each month. (219 272-5431) Permission is hereby granted to reprint, at any time, items published in the ROCKFINDER provided due recognition is given.

cut

Membership Dues are:

_____ Individual	\$ 6.50 per year
_____ Family	\$ 10.00 per year
_____ Junior	\$ 2.00 per year

Please send your dues and this form to
Michiana Gem & Mineral Club, Treasurer
Marge Collins
3017 Niles-Buchanan Rd
Buchanan MI 49107

Please make address corrections to the mailing label on the reverse side and fill in the optional information below. Your Birth Mo/Yr _____

Check your SPECIAL INTERESTS:

General Geology	_____	Gems & Minerals	_____	Fossils	_____	Artifacts	_____
Cabochons	_____	Faceting	_____	Silversmithing	_____	Carving	_____
Micromounts	_____	Beads	_____	Other	_____		

Family Members include information on spouse and children:

Name	_____	Birthdate	_____	Will attend meetings	_____
Name	_____	Birthdate	_____	Will attend meetings	_____
Name	_____	Birthdate	_____	Will attend meetings	_____

THE ROCKFINDER

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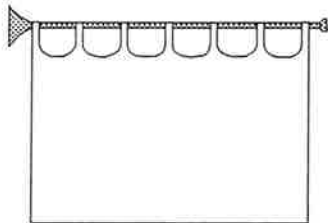
December 1993

Published by:
Michiana Gem & Mineral Society

Meeting: No meeting in December
Doors Open PM
Meeting at PM



Place: Westminster Presbyterian Church
1301 E Cleveland Road



Hosts:

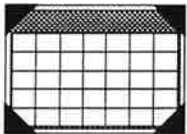
December Birthstone - Turquoise & Zircon

Turquoise has been a prized jewel for nearly 7500 years. Today it remains an important part of the Native American culture. Zircon is also an archeological gemstone, carvings have been found at many ancient sites.

Happy Birthday & Anniversaries



8 Clayton Merrill
9 Margaret Shultz
10 Margie Hawkns
11 Molly Elwell
22 Rob & Judy Heinek (anniv)
29 Bob Heinke Sr.



Calendar of Events:



Mar 26-27 Gem & Mineral Show
Des Plaines Valley Geol Soc
Rand Park Field House
Des Plaines, IL

Apr 9-10 Central Ohio Show
Columbus Rock & Mineral Soc
Columbus Ohio
Calrton Davis (614) 451-3252

June 17-19 29th Ann. Gem & Mineral Show
Lawrence County Rock Club
Monroe County Fairgrounds
Bloomington IN
Margaret Kahrs (812) 522-6093

June 25-26, MGAG Rockhound Seminar
1994 Southwestern Michigan College
Niles Michigan
(313) 664-8985

April 8-10 California Federation, DelMar CA

June 3-5 Northwest Federation, Ogden UT

June 23-26 South Central / AFMS, Houston TX

July 8-10 Rocky Mountain, Rapid City SD

Sept 2-4 Midwest Federation, South Bend IN



**Margaret's
Column**

Where has the Year gone? It has been a busy year for the Heineks and not a bad year, health wise. We sincerely hope that 1994 will be a good year for all of you.

I want to take this opportunity to thank every one for their help with the club, Pam for serving as your secretary, Sister Jean for keeping the treasury, Larry for the ROCKFINDER, taking over when we found out Joyce was so ill (he is doing such a good job), Paul for lugging all of the books back and forth to the meetings, Irene for seeing that we have hostesses each month, Molly for her job of cards to members on their birthdays and anniversaries, Ed Miller taking over when Bess had to get rid of the history books, Bill and Marie Crull for their work on the club show, TO EVERYONE THAT WORKED TO MAKE THIS A 1ST RATE SOCIETY. I DO NOT WANT TO FORGET TO MENTION ANYONE, SO I THANK YOU ALL!

It was a very nice Christmas party we had on Dec. 5th and wished we had seen more of our members there. As usual the food was good, the hospitality was outstanding and good time was had by all.

I have some news about our Catherine McHugh. She had a little set back last week, but is on the way to recovery! Kathy told me the doctor has put Catherine in therapy and is doing real well. She is in room 563 at St. Joseph's South Bend hospital and will be there about 5 weeks. All of her family is here for Christmas and someone is with her at all times. You know she is a "fighter" and she will be home as soon as possible. A friendly visit, when she is better, will play a vital role in her recovery. She does sleep a lot, so if you go and she doesn't wake up, realize she is probably worn out from her workout. But if you can't go visit, I am sure she would like a card.

1994 will be a busy year for our Society, what with hopefully a field trip in the spring. I am sure we could get a week-end trip to southern Indiana, with the club picking up the bus cost. We will see what it will cost for us to go for a week-end and what a motel would cost us. If we can do this Pam said she knows someone that will show us around a hunting area. I will have more on the cost in January, then we can make our plans.

Our next meeting will be held in January, so may I take this time to wish everyone a very happy holiday and hope your family stays well all of 1994. Many of our members are in the South for the winter and hope they come back safe and sound in the spring.

I just had a card from Dave and Joyce Darrow from Cal-Nev-Ari, NV, wishing everyone in the club regards. He had just returned from El Centro, California with a load of spar and mica. Some looking like a thick window glass, also some dog-tooth calcite. They had gone there for garnets, but came home without any. They are finding perfect amethyst crystals on green fluorite, "strange". Sounds like Dave and Joyce are having fun!

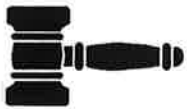
See you in January.....

Margaret

Giant Geode

At the bottom of a 1200' shaft in the Cressen Mine, near Elkton CO, a geode or vug 30' across and 18' high was found. It was lined with sylvanite containing almost solid gold. The lining was several feet thick. It assayed out at \$1,000,000. per ton! It was so rich, a huge vault door was installed over the opening. (Dont go looking for this geode, it was found in 1915.)

- from SCFMS Newsletter May/June 93 via
MMS Conglomerate 11/93.



**SECRETARY'S
REPORT**

**MINUTES OF THE NOVEMBER 1993
MICHIANA GEM & MINERAL SOCIETY**

President Margaret Heinek opened our regular meeting. The October minutes were accepted as printed in The Rockfinder. The treasurer's report was filed for audit. Guests Jerry Bleck from Memorial Hospital Home Health Care and Lynn Patrick were introduced. Past member Dale Douglas was also introduced.

Committee Reports

Program - Jerry Bleck will give a brief program on Memorial Hospital Home Health Care.

Education - Gordon Dobecki's classes are ending in December.

Paul Godelli's fossil classes continue to meet at his home on Saturday mornings.

Sunshine - Pat and Tom McLaughlin have a new granddaughter.

Congratulations!

Library - Paul Godelli brought in a nice selection of books for members to look at or borrow. Please remember to return materials you borrow!

New Business

The Christmas party will be next Sun., Dec. 5, at 1:00. Come with an appetite and have a good time.

It was moved, seconded, and passed unanimously to donate \$50 to MWF in memory of Joyce Larson.

1994 Fall Show - 13 dealers have registered for the fall show. Chuck Collins is working with the Smithsonian to have one of their exhibits at the show, and Paul Godelli has spoken with the Indiana State Museum about a display for the fall show.

Election of Officers - The following slate of officers was nominated, seconded, and unanimously elected for 1994:

- President - Margaret Heinek
- Vice President - Ed Miller
- Secretary - Pam Rubenstein
- Treasurer - Marge Collins
- Liaison - Paul Godelli

Meg Auth has volunteered to be our new publicity chairman.

This month 21 members, 2 guests, and 3 junior members were present. Door prizes were awarded to Elizabeth Jordan, Louis Jordan, Alec Rubenstein, Loraine Jordan, and Paul Godelli.

Respectfully submitted,

Pam Rubenstein

**Michiana Gem & Mineral Society
Membership Roster Update.**

(New members, renewals, roster errors, address changes, etc.)

Mr. Dale Douglas
54152 Ash Rd, Lot 85
Osceola IN 46561

Debra Willsey
1514 E Sieria
Phoenix AZ 85020
(602) 870-4786

Happy
Holliday's





Editor's Notes

I'm sorry to have missed the Christmas Party but I was out of town on business for most of two weeks. You may have trouble calling me but please try, I'd like to get news from everyone each month to include in the Rockfinder.

My son and I had the good fortune of getting NDU basketball tickets in November and while there visited the Engineering Building. For those of you that didn't attend our meeting there, it was about two years ago, they have an excellent display of minerals and fossils. I recently spoke with Rev. Rigert about the display and will include more in a future Rockfinder. One section I enjoyed most is a display of the physical properties of minerals and samples that show these features. This is a nice exhibit that everyone would enjoy.

My work related travel has many disadvantages but I do get to visit with members of many rock clubs around the country. This experience leads me to applaud the efforts of our President. Margaret really pulls together every good idea I've seen and includes them in our club & show. We have great club here in Michiana, one of the best in the country. Thanks, Margaret!

Please note the membership dues form inside the ROCKFINDER cover. It is important to fill out and return the form so we have accurate information in the Roster and for ROCKFINDER mailing.

Larry

GOLDSTONE

In 1550, after years of effort and failure, the Monks of Northern Italy happened to make a beautiful sparkling material with golden stars. They named it *Goldstone*.

It is essentially glass with inclusions of crystallized copper filings. The production has been a secret for centuries. Many have tried but no one has been able to duplicate it. The Monks called it "adventuring stone" since it is impossible to foretell the success of the mixture for many weeks. Due to a lack of modern production methods, a batch of material can be unsuccessful because of the uncertainty of the heating and cooling process.

Recently, a blue goldstone, called "Blue Magic," has been developed from the same process. There is also a Green Goldstone made with a slightly different process, but with the same sparkling effect. The latest variation is a black "Midnight Stone."

Most goldstone is shipped in bulk to major stone cutting and polishing centers. Germany is the most important cutting center, but much cutting is done in Austria, Holland and Japan. Goldstone will not discolor, fade or lose its beauty.

- Mountain Gem via Rockpile, 11/93

More Humorous Gems from -
Jim Toney's Glossary

CRUSTACEAN PERIOD - The time it takes to for a scab on top of your pea soup.

TRIM SAW - A machine that takes off the fat.

FINDINGS - Stuff you find.

The Brilliance of Beryl

by Jeffrey Scovil

When Pizarro and his men first trekked through what is now Colombia searching for gold in the 16th century, they stumbled upon something even more valuable: emeralds. The local Chibca Indians had been mining the Colombian mountains for emeralds since at least the 13th century. It is said that the emperor of Mexico, Montezuma II, attended important functions covered from head to toe in emeralds and that one tribe of Peruvian Indians worshiped an emerald the size of an ostrich egg.

The Spaniards claimed all the emeralds they could find and searched for the mines with no success. It wasn't until the 1530s that they discovered the Mines of Chivor and Muzo, located about 120 miles and 60 miles, respectively, from Bogota. They forced the Indians to work the mines as slave labor and for the next 66 years extracted incredible emeralds to fill the treasure galleons of Spain. The mines were closed in 1602 by King Philip III because of the abysmal working conditions. The jungles reclaimed the mines and they were lost for some 200 years. Muzo and Chivor are back in operation today. They are still the most important mines in Colombia and have produced perhaps the finest emeralds ever known.

Emerald is now the second most valuable gem in the world, after ruby. But it has never gone unappreciated. The ancient Greeks held the emerald in high esteem and dedicated it to the goddess Aphrodite. The green stones the ancients knew presumably came from the fabled mines of Cleopatra on the Red Sea in Egypt which were worked as early as 2,000 B.C. The Roman scholar Pliny the Elder sang he praises of emerald in *Historia Naturalis*, arguing that green plants paled before its brilliance: "We enjoy the green color of herbs and other plants but that of the emerald is generally regarded as

the most beautiful of all."

Emerald is not the only high-achiever in its mineral family, either. It is a variety of beryl, a group that contains a number of prized gemstones. When it's fairly pure, beryl is colorless and goes by the unassuming name of goshenite, after Goshen, Mass., the town where it was discovered. Other beryls are colored by small amounts of impurities. Chromium gives emerald its intense green. Ferrous iron creates aquamarine ("seawater" in Latin), a blue-to-turquoise beryl once thought to come from the treasure chests of Mermaids. Ferric iron produces the yellow of heliodor, named after the sun. Manganese creates the pink-to-salmon color of morganite. (Morganite was named by G. F. Kunz, a Tiffany gemologist, in honor of J.P. Morgan, the 19th-century financier, and one of Kunz's best customers.) In higher concentrations, manganese produces the purple/red of bixbite, a very rare variety known only since 1974, mined exclusively in the Wah Wah Mountains of Utah.

Beryl has the relatively simple formula of $\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$ - a beryllium aluminum silicate. Crystals usually form columnar, six-sided prisms that are flat at the end. Most beryls have a hardness of about 8 (slightly harder than the quartz family gems) and thus can make beautiful, durable gems.

The best rocks in which to find most gem-quality crystals, especially aquamarine, morganite and heliodor, are granitic ones, such as pegmatites. In them, beryl crystals can grow to immense sizes. A pegmatite in South Dakota produced a behemoth crystal over 32 feet long and seven feet in diameter. Unfortunately, it was not gem quality. A mine in Minas Gerais, Brazil produced one of the largest gem-quality crystals ever found: an aquamarine that weighed in at 243 pounds. After cutting, this incredible crystal yielded over 200,000 carats of cut stones.

The pegmatites of Minas Gerais produce numerous beryls, as well as tourmaline, topaz and a host of other rare and beautiful minerals. Beryl-bearing pegmatites are also formed in Madagascar, New England, North Carolina, Southern California, Pakistan, the Ukraine and Nigeria.

Unlike most of its fellow beryls, emeralds come from metamorphic rather than igneous rock from places like Brazil, Austria, Russia and East Africa. In Colombia, however, most crystals come from calcite veins in sedimentary shale. Emeralds seldom grow large and are rarely flawless. But the tiny inclusions that riddle the green crystals have become part of their charm. The gem industry refers to these flaws as the emerald's tiny "garden."

The very rare red beryls all come from the light-colored volcanic rock rhyolite. These too are generally small, seldom exceeding an inch or two in length.

Beryl is as useful as it is beautiful. It is the major ore of beryllium, which is used to make beryllium-copper. When it's tempered, it becomes resistant and strong, making it ideal for use in springs. Today, it's widely used in the manufacture of rockets, jets, reactors and other high-tech equipment.

The ancients thought beryl was useful too. Emerald was thought to cure all manner of ailments and to spice up one's love life as well. Beryl was also prized as an aid for the eyes: The Romans made eyeglasses from it (Emperor Nero reputedly owned a pair). And some people believed that simply staring at an emerald could improve one's vision, perhaps removing the need for glasses.

Of course, few people today believe staring at emeralds will strengthen the eyes. But it's guaranteed to delight them. *

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Earth Magazine January 1994.

1994 Show Update
Joint Exhibit Proposal, by Tom Noe
Non-competitive exhibits Chairman

I'd like to organize a joint exhibit in the non-competitive category for next year's Midwest Federation Show. All the members of the club would be able to contribute something. The subject is GEODE HALVES (just one half, not pairs). Here is how it would work. At one of the upcoming monthly meetings, you could bring your best or most unusual geode half. Make sure to mark it with your name and some information about the geode. I will create labels and arrange the display in one of the club's cases and return your geode after the show. For space reasons, try to keep them under four inches in diameter. Geodes are always a popular item, so I think this would be a useful exhibit.

To participate in this exhibit, bring your geode halves to one of the monthly meetings and I'll take it from there. Thanks, Tom Noe.

MIDWEST FEDERATION
1994 CONVENTION
GEM & JEWELRY
SHOW & SALE
Century Center
120 S. St Joseph St.
South Bend, IN



Jewelry
Gemstones
Crystals
Minerals
Fossils
Beads
Repairs
Stone Setting
Kiddie Korner
and More!

Retail Dealers
Demonstrations
Displays

Friday Sept. 2 - 10am to 7pm
Saturday Sept. 3 - 10am to 6pm
Sunday Sept. 4 - 10am to 5pm

Adults \$3 daily: 3 day pass \$7
Age 6 to 16 \$1.50 daily: 3 day pass \$3.50
Under 6 Free

OPEN TO THE PUBLIC

Hosted by Michiana Gem & Mineral Society

Information:
Margaret Heinek
7091 E. East Park Lane
New Carlisle, IN 46552
Phone 219-654-3673



Dealer Chairman:
Charles Collins
3017 Niles-Buchanan Rd.
Buchanan, MI 49107
Phone 616-695-4313

ANOTHER PAIR OF EYES Part 2

by Thomas S. Warren

.... What causes the change? Why don't all minerals fluoresce?

Minerals fluoresce when the energy of the ultraviolet light causes the electrons in the atoms to change their orbit, which is unnatural and they return to their normal orbit. In doing so, the electrons release the energy they absorbed from the ultraviolet light, and as the scientist would say, return to ground state. This released energy is in the form of a light wave which we see as color. This color originates in the mineral and we call it fluorescence. To put it simply, it is a transformation of energy from an invisible wavelength to a visible wavelength. Only minerals with a certain structure have the ability to fluoresce.

In some cases, the glow will continue after the ultraviolet source is removed. This is called phosphorescence. There is no essential difference between fluorescence and phosphorescence except that the luminescence is caused by two different atomic structures in the same mineral.

There are many practical applications for ultraviolet light and the color it causes in minerals. Several fluorescent minerals are of great economic importance, and the search for them is substantially aided by battery operated, ultraviolet prospecting equipment. Chief among these important minerals is scheelite, an ore of tungsten. Tungsten has the ability to give steel greater hardness. It is also used for filaments in light bulbs, electric contact points and special alloys for jet aircraft to name just a few of its uses. The bright blue fluorescence of scheelite is easily spotted with a shortwave ultraviolet lamp. However you may notice the fluorescent color of scheelite is somewhat variable from

blue to blue-white to a cream-yellow, depending upon the presence of the impurity molybdenum. The color changes are due to the increasing percentages of the molybdenum impurity. California is extremely fortunate in having a healthy supply of scheelite, but the main source of scheelite is found in China.

Strangely enough, ultraviolet equipment is used at nearly all oil wells. While drilling, the drill cores are frequently checked for signs of brilliantly fluorescing crude oil which may indicate another strike.

Finally, in talking about the practical side of using this magic medium, we should not forget the hobbyist or "rockhound" who can make practical use of ultraviolet equipment in his or her many trips to look for attractive stones. The hobbyist is not a prospector for his or her search is on a part time basis. However, it is astounding how many valuable signs of tungsten, uranium and other ores have been found by amateurs. Tungsten finds, for instance, have come to over \$100,000,000. in the last several years and a good share of this was found by hobbyists.

End of Part 2, edited to three parts.

- From Lizzadro Museum Bulletin, 9/93.
Reprinted with permissions of the author and the Lizzadro Museum.



Computerizing Your Collection - Part 2

by Paul Godollei, Michiana Gem & Mineral Society.

After selecting **Lateral Files 2**, I had to decide how to set up the index. The program is set up so you can copy blank cards and set up your own system. I set up the first set of index cards as a Locality Index, to list all the collecting sites, so that a simple L-1.2 would indicate the exact locality where I found the fossil. See the examples included.

Then I set up a master list, or Category Catalog, in which I arbitrarily assigned 1000 to fishes, 1500 to vertebrates, 2000 to arthropods, etc. I used category 0 for specimens that had several fossils on the same slab, with different categories, such as Brachiopods with coral and Bryozoans together.

My next step was to list all the specimens according to their categories. For this I used the "Word" program, set up in tables. Then I entered data into a 4 x 5 inch index cards for each specimen, with its individual number and identification. I will go through each step with examples.

Card No. 1 (below) shows the Category Catalog. Cards nos. 2, 3 & 4 show some of the Locality Index cards, Locality Cards 1, 3 & 6. Card No. 5 shows a specimen card, number 5054. Referring back to the Category Catalog, you see that Brachiopods begin with 5000, so 5054 is assigned that category. The locality L-2 identifies the specimen as having been collected at Silica Ohio, as noted on locality card #3.

My entire collection is cataloged in a similar fashion, Brachiopod specimens beginning at 5001, Bryozoans with 6001, and so on. In Part 3 of this series we will discuss setting up a master list of specimens in tables.

CATALOG	PHYLUM
1000-Pisces- Fishes	8500 - Corals
1500-Vertebrata	9000-Porifera-sponges
2000- Arthropods	10000-Protozoa
3000 - Annulata- Worms	11000-Algae
4000-Pelecypods	0-Mixed Specimens
4200-Scaphopods	
4400-Gastropods	
4500-Cephalopods	
5000-Brachiopods ^s	
6000-Bryozoans	
7000-- Echinoderms-Cystoids	
7100-- Edrioasteroids	
7200-- Echinoids- Starfish	
7400--Crinoids	
8000--Stromatoporoids	

Master List - Category Catalog

Locality

Fossil Collecting Sites





L 1.1-Cincinnati, Ohio-Westwood Northern Boulevard at Boudinot
Upper Left Corner-Site no longer available-Appartment Houses .

L 1.2-Cincinnati, Ohio-Beekman St.-TV Tower-top of hill-
Gastropods

L 1.3-Cincinnati, Ohio-Fairview Park

L 1.4- Cincinnati, Ohio-Clifton Ave Bluffs

L 1.5-Cincinnati, Ohio- Eden Park Bluffs

Locality File Card # 1

Locality 3

L 1.14- Oxford, Ohio Area- Upper Ordovician Fossils

L L 1.16-Dent, Ohio-Ordovician Fossils-Crinoid Heads and Cephalopods

L 1.17- Beechmont Avenue-Eastern Cincinnati-Past Lunken Airport-
Mt. Washington., Ohio-500 yds on East side of Road-Edrioasteroids
and tentacle parts





L-1.28- Bald Knob, Cincinnati, Ohio

L-2 Silica, Ohio-Medusa Cement Co Quarry-Lucas County, Ohio
Columbus Limestone-Middle Devonian rocks-Hamilton Formation

L-3- Monon, Indiana Silurian-Devonian contact

L-4- Wabash, Indiana

L-5- Huntington, Indiana

Locality File Card # 3

Locality 6

L-23- Purchased at Cincinnati Natural History Museum

L-24- Purchased at Dallas, Texas Natural History Museum

L-25- Gifts

L-26- Pikeville, Indiana - one mile South


L-30 -Le Clapier, France- Ammonites

L-31-Somerset, Kentucky


L-32-Berea, Kentucky

L-33- Muskegee County, Oklahoma

L-34- Waldron, Indiana

 L- 27- Green County , Indiana

← →



Locality File Card # 6

INVERTEBRATES BRACHIOPODS L-2 5054

CATEGORY: BRACHIOPOD Specimen No. 5054

Genus: ATRYPA (Dalman) 1826

Species : *Atrypa reticularis* (Linnaeus)

Order: Palaeotremata

Superfamily: SPIRIFERACEA, including ATRYPACEA

Class: Articulata

Phylum: BRACHIOPODA

Formation: Devonian-Silica shale

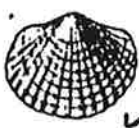

Locality: Portland Cement Quarry, Silica ,Ohio

Collector: Paul Godollei



Reference: Ohio fossils p 82-83
Shimer & Shrock: Index Fossils of North America Pl 121, fig 1-7 pp318

Date Collected: 1958

BRACHIOPODS

Atrypa 1X

 ← → 

Specimen Card for # 5054