



NEWSLETTER

of the INDIANA CHAPTER, FRIENDS OF MINERALOGY, INC.

Volume III: No. 4

June - July 1989

OUR NEXT CHAPTER MEETING:

"The Minerals of Cave-in-Rock, Illinois"

Alan Goldstein

4:00 pm

Saturday, June 10, 1989

at the Bedford, Indiana Rock Swap

Lawrence County 4-H Fairgrounds

Bedford, Indiana

It's time again for the exciting Bedford Swap! Those of you who have never been to the Swap are encouraged to do so; last year some 200 people set up swap tables over the three-day event...at least 160 at one time...dealers/swappers came from Canada and the Netherlands (previous years saw people from England, Belgium and Mexico). See the attached flyer for swap information...

For the third year, your Indiana Chapter of FM will hold a public lecture program and meeting in conjunction with the Bedford Swap. We hope you can join us for this informative and interesting presentation, and encourage you to invite others to come also!

Following the program we will conduct a regular business meeting to discuss future field trips, programs and other projects.

1989 CHAPTER CALENDAR

- June 10, 1989 - Meeting at the Bedford Swap. 4:00 pm. The program will be: "The Minerals of Cave-in-Rock, Illinois" by Alan Goldstein.
- July 1,2,3 1989 - Field Trip to Houghton, Michigan for the second Red Metal Retreat in "Copper Country".
- July 8, 1989 - Indiana Fossil and Mineral Day at the Indiana State Museum, 9:00 am to 4:00 pm. We will have at least one display/information stand at this event; any members are welcome to come and join us. (See the attached information from Ron Richards.)
- September 16, 1989 - Meeting at the Greenfield Show: 3:00 pm. The program will be on the Copper Country field trip, with reports, show-and-tell, and slides of the event from those who participated.
- November 12, 1989 - Annual Meeting at the Indiana State Museum in Indianapolis. Program by John Medici, renowned mineral collector and FM member from Dublin, Ohio. Also, election of officers and setting of membership dues amounts for 1990.

Field Trip Report:

On Saturday, May 6, Vern Swanson led a field trip of FM members into the Hoosier Stone and Concrete Corp. quarry in Salem, Indiana. Attending besides Vern were Jo and Lawrence Alberring, Wanda and George Aldred, Rich and Karen Eddy, and Dave Rush. Minerals found were calcite, quartz, gypsum, sphalerite and abundant celestine. Dave and Vern did especially well, exposing one particular stratum that was loaded with celestine-filled geodes; when one rock was hauled off the level, four geodes at once were exposed, all with large, deep blue celestine crystals showing. Elsewhere, lighter blue and multicolored crystals of celestine were found. The day was highly successful, thanks to the quarry operators who allowed us in for some seven hours that day. Our appreciation again to Vern for making the arrangements.

Report on the Cincinnati Meeting....

The Chapter held its May meeting in conjunction with the 25th Annual Cincinnati Gem and Mineral Show, and had an attendance of 60 during the program; minutes of the short business portion of the meeting will be read at the Bedford meeting and later distributed.

....and the Program on Ohio Minerals....

Our program was given by Dr. Ernest Carlson of the Ohio Geological Survey, who has just completed a study and a new book on the minerals of that state. His slides included location views and maps, as well as specimens. Following is a brief summary of his talk:

A. Northwest Ohio Mineral Belt: includes the well-known Lime City, Clay Center, Pugh and Duff's Quarries, and also many lesser known quarries. Minerals form in fractures, vugs, & fossil cavities, and include fluorite (brown, purple and zoned varieties), strontianite, calcite, marcasite, pyrite, gypsum, dolomite, barite, celestine, sphalerite, and galena.

B. Serpent Mound Zinc Mineralization: a five-mile diameter, unusual geologic feature which was possibly the result of a large meteorite impact. The rock is like a rubble pile, extremely fractured, faulted, jumbled and weathered, although undisturbed by glaciation, so weathering products of zinc are available. Zinc minerals include: sphalerite, hydrozincite, and hemimorphite. Sulfur is also present.

C. Flint Belt: colorful flint from the Flint Ridge, Van Port and Nellie-Warsaw areas.

D. Concretions: found in a belt trending from Lake Erie to the Ohio River, and classified by the material in them: hematite, lime stone, siderite and barite. Some with wurtzite, whewellite, pyrite, quartz, and ferroan dolomite. Septarian concretions, some with barite filling the cracks and resembling turtle shells. Good locations: Copperas Mountain and Negley.

E. Glacial Deposits: Gypsum (selenite) crystals in glacial muds in Portage County, the West Branch location. Also, vivianite in a quarry in Lodi.

F. Efflorescences: all over the state, formed by soluble salts. Copperas Mountain named after occurrence of copperas (melanterite) there. Also pickeringite and copiapite.

Your copy of a sheet on Northwest Ohio minerals, given out at the talk by Joy Hintz of Heidelberg College, is attached.

OUR NEXT CHAPTER FIELD TRIP:

2nd Annual RED METAL RETREAT
on Michigan's Keweenaw Peninsula
July 1, 2 and 3, 1989

Our Chapter will be joining other interested people in traveling to Michigan's Upper Peninsula for a holiday weekend of education, mineral collecting, and support for the famous Seaman Mineral Museum. The actual events will be under the direction of the Red Metal Minerals shop in Hancock, and the Seaman Museum in Houghton, so if you are planning to participate, you should register directly with Red Metal Minerals, using the attached form.

If you plan to attend, you should also contact Dick Eddy, 183 N. Casagranda Rd., Crystal Falls, MI 49920 [phone (906) 822-7273], who with Don Schuder is gathering information about available lodging during the Retreat. We also hope to have some type of get-together there for Chapter members and families, and will make available information about other collecting opportunities in the area.

Schedule of Field Trip Events

Saturday, July 1: 9 am - 12 noon. Registration: at Michigan Tech. University's Seaman Mineral Museum, Houghton, Michigan. 1:30 - 4 pm. Roundtable: talks on collecting, curating, and cleaning mineral specimens by Stan Dyl, John Medici and Rich Whiteman. 5:30 pm. Repast: Banquet, \$12.00 fee. 7:00 pm. Report: Slide program. 8:00 pm. Ransom: Auction to benefit the Seaman Museum. Terry Huizing to auctioneer. Specimen donations encouraged. (free)

Sunday, July 2: See registration form for scheduled Romp times: Caledonia Mine Tours (free) and Caledonia Mine underground collecting (\$10 fee); Historic Region Tours Pasty lunch and beverage (\$3.00 fee) 7:00 pm. Reunion: Snacks, swim and sauna (free) hosted by Guin and Rich Whiteman at Hancock.

Monday, July 3: 9:00 am - 5:00 pm. Roadtrips: Choice of two guided bus tours, one on area geology and the other on the proposed Calumet National Historic National Park sites. (\$10.00)

Welcome to our four renewing members! They bring our total membership to 49 (as in Forty-niners?)... add to your Chapter Roster....

Ron and Bev Neawedde, 10990 S 600 E, Elizabethtown, IN 47232
Home: (812) 579-6969

David Straw, 1555 Capri Lane, Richmond, IN 47374
Home: (317) 966-4249

Victor Hurm, Jr., 1224 W. 31st St., Jasper, IN 47546
Home: (812) 482-3940

NEW and RENEWING MEMBERS.... You may bring dues to any meeting or field trip, or mail directly to Secretary Wanda Aldred, RR #2 Box 175, Shoals, IN 47581. Annual dues are \$15.00 (\$7.00 for additional member in the same family) and include National and Chapter dues and liability insurance protection through the Cincinnati Insurance Co. *If you or someone you know would like assistance with paying the membership fee, please contact any officer; a special fund has been set up to do this.*

May 9, 1989



INDIANA STATE MUSEUM
AND HISTORIC SITES

202 N. Alabama Street
Indianapolis, IN 46204
(317) 232-1637

Indiana State Museum
Angel Mounds
Commandant's Residence
Corydon Capitol
Culbertson Mansion
George Rogers Clark
Indiana Territory
J.F.D. Lanier Mansion
Levi Coffin House
Lumberlost
New Harmony
Old State Bank
Pigeon Roost
Ernie Pyle Birthplace
Gene Stratton Porter
T. C. Steele
Whitewater Canal

Accredited by
American Association
of Museums

Indiana Chapter, Friends of Mineralogy, Inc.
c/o Richard Eddy
5235 Hartford Avenue
Columbus, IN 47203

Dear Fellow Enthusiasts:

On Saturday, July 8, 1989, the Indiana State Museum is hosting the fifth annual "**Indiana Fossil and Mineral Day**" from 9:00 a.m. to 4:00 p.m. at the Museum, 202 North Alabama Street, Indianapolis, Indiana (see enclosed map). Last year 1301 visitors attended and all participants felt very good about the event.

This is not just another "rock and mineral show". This is, first of all, a day of personal interaction with the public - your knowledge of identification, how fossils form, how minerals grow, etc., or whatever the interested visitors may ask. "Hiding" behind display cases should be avoided. Providing "hands-on" specimens is a must, so be prepared to bring along larger, very average specimens. Top quality specimens should be protected in a case. Tables will be distributed around the central rotunda on the third and fourth floors.

We want to stress Indiana specimens. And we would like for participation to be on the club level. Clubs can be represented by any number of various individuals or club specimens or displays, all within a club's area of interaction. Giveaways are encouraged; selling is prohibited unless as arranged through the museum shop.

A limited number of tables (6' x 2½' and 6' x 3') will be available. Bring any needed lighting and extension cords. Set-up time is 8:00 a.m. with tear-down at 4:00 p.m. The Museum closes at 5:00 p.m. Non-cumbersome cases and specimens may prove worthwhile.

It is hoped that the clubs can use the day for informing the public, for enlisting membership into the club, and for meeting old friends and making new ones. The Museum should appreciate an enhanced visitor count. And, I would like to make the State Museum a focus for many of the earth science activities in Indiana.

Please return the enclosed form as soon as possible to enlist your support.

Best Regards,

Ronald L. Richards
Curator of Paleobiology
and Curator-in-Charge
Indiana State Museum and Historic Sites

RLR/cjg

Enclosure

THE MINERALS FOUND IN TIFFIN, OHIO, QUARRIES IN EARLY 1900'S

part of the "Mineral Belt" of Northwest Ohio.

The suite of ore minerals are strontium, fluorine, zinc and lead.

CELESTITE- Strontium Sulphate ($Sr SO_4$)

STRONTIANITE-Strontium carbonate ($Sr CO_3$)

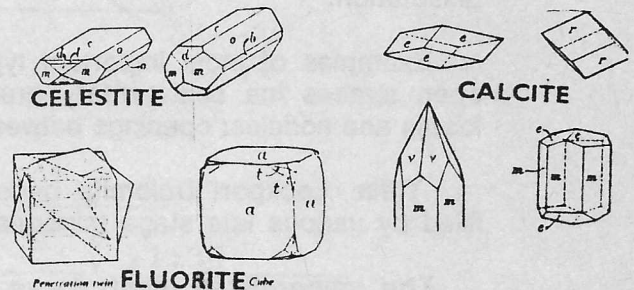
CALCITE-Calcium carbonate ($Ca CO_3$)

FLUORITE- Calcium fluoride ($Ca F_2$)

SULFUR- Sulfur (S)

SPHALERITE- Zinc sulfide - ($Zn S$)

GALENA - Lead sulfide (PbS)



The district is 60 miles wide and 120 miles long, with nearly 100 minor occurrences of these minerals.

Little has been written about the minerals and quarries in Tiffin, nor about the quarries in Seneca County. Thus, there is no information on where the specimens in the Jones Collection of Minerals, Heidelberg College, were found. Labels all read Tiffin, except for one which said, "Big 4 R.R." railroad. We will be attempting to obtain more information by contacting local residents who may remember. The only catalogue cards with dates cited are 1906 and 1910.

The Big 4 R.R. site is now a mobile court. The quarry is filled with water and used for swimming and fishing. Some of the upper rock cropping is exposed.

The stratigraphic distribution is named by geologists as: Lockport dolomite, Salina Group, Bass Islands Dolomite, and the Devonian carbonate sequence. Tiffin and Seneca County minerals are in the Lockport dolomite strata in the Findlay Arch Area, in Silurian time period, about 40 million years ago!

The mineralization of these minerals is restricted to carbonate rocks, chiefly dolostones (and rarely limestones), of the middle Silurian to middle Devonian age.

The material is centered on Seneca County, but applies in some of the other deposits in northwest Ohio.

Geologists have several theories on how these minerals were deposited. One of them is as follows: Trace metals contained in the rocks enclosing the mineralization were liberated by the partial dissolution of these strata.

The strata deposits included gypsum (hydrous calcium sulphate. $CaSO_4$ plus water $2H_2O$). Hydration of anhydrite from gypsum could liberate strontium. Anhydrite is $CaSO_4$ with no water.

Thus either one or both of the mechanisms, the dissolution of gypsum and the hydration of anhydrite could provide strontium-rich groundwaters. The mixing of these downward moving waters, in turn with warmer solutions at depth, could cause celestite to precipitate since the solubility of celestite decreases within the increasing temperature.

Thus, celestite strontium sulphate was one of the earliest minerals to form. Fluorite and calcite mineralization occurred later but is very complex, and not within my ability to interpret from the sources read.

The mineralization at specific sites was controlled by the availability of open spaces in the rocks at the time the ore minerals were introduced.

Open spaces originated from the selective dissolution of more soluble phases, such as evaporites, and /or enlargement of pre-existing rock openings, like fractures and by dissolution.

Examples of most important types of rock openings in the district include: caves, open spaces ins sedimentary breccias, irregularly shaped vugs, molds of crystals, fossils and nodules; openings between joint and fault planes.

Tiffin Lockport Dolomite beds, included area of small, irregularly shaped vugs, filled by various late stage minerals.

The mineralized host rocks typically are dolomites and only rarely does mineralization occur in limestone or sandstones.

The celestite, one of the first minerals to be deposited in the cavities, usually occurs alone in reticulated groups of crystals, but later minerals, calcite, and sphalerite, occasionally occupy the voids in celestite networks.

CELESTITE is found in great abundance in some quarries. Colors are white to sky-blue, crystals are typically well-formed and display tabular to prismatic habits.

In Seneca and Ottawa, Sandusky, & NE Wood Counties, the networks of celestite may be filled by a later stage of fluorite and calcite. p. 91 Strontium ore (celestite) once produced in Ottawa Co. Crystal Cave on So Bass Is. in 1890's and U.S. Gypsum Co, Quarry, Genoa, 1940 for use in manufacture of fireworks and tracer bullets.

FLUORITE occurs district-wide, including in Seneca Co., greatest in the host rock, silurian age. Fluorite typically lines vugs and fractures. It is usually brown, but may be colorless, yellow, pale blue or purple. It occurs incoarsely granular masses or well-formed cubic crystals that range from 0.1 to 7 cm across 1/8 to 2 3/4 in.

Crystals may be iridescent in the case of brown fluorite, or color-zones with colorless or yellow rims typically surrounding brown cores.

GALENA is listed as found in Seneca County some in Rock Creek Tiffin.

SPHALERITE is widespread across the district in Ohio and Indiana. Sphalerite occurs typically as brown or red granular aggregates and small crystals in cavity fillings and veins. Although it may be associated with other minerals, the sphalerite usually occurs alone. It was called "ruby or black jack" by miners.

Notes from paper by Ernest H. Carlson, Kent State University, "Occurrence of Mississippi Valley-Type Mineralization in Northwestern Ohio," 1983, and from a draft of a book by Prof. Carlson on Ohio Minerals to be published in the fall of 1989.

For more information contact, Joy Hintz, Heidelberg College

Tiffin, Ohio, 44883

OR 503 E. PERRY ST.