



## NEWSLETTER

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### MIDWEST CHAPTER, FRIENDS OF MINERALOGY

#### MEETING

SATURDAY, SEPTEMBER 6, 1997

1:00 PM (EST)

4-H FAIRGROUNDS, HANCOCK Co.

GREENFIELD IN

PROGRAM: DR HENRY L BARWOOD, "OCCURRENCE OF  
TURQUOISE GROUP MINERALS IN THE EASTERN UNITED STATES."

Message from the President

Since the last meeting, I traveled to Washington DC to give a lecture on turquoise group minerals (I will be presenting this talk at our next meeting) and while there visited the Willis Mountain kyanite mining operation. Willis Mountain is the last kyanite mine in the US and is only operating because there is a demand for natural mullite "grain" produced from the kyanite. The product from the mine goes into glass melting tanks and other refractory applications where aluminosilicates are used. It is good for mineral collecting that this demand exists, because Willis Mountain has produced two new mineral species over the last three years. One is an anhydrous rare-earth aluminum phosphate in the crandallite group, and the other (just discovered this Spring) is an aluminum sulfate. In addition the minerals trolleite, goyazite, crandallite, apatite, lazulite, topaz, monazite, strengite, variscite and jarosite have been found. I found quite a few specimens of goyazite on this trip, but sadly, neither of the unknowns.

I will soon assume the duties of maintaining our web page and hope to add quite a bit to it this Fall. Please let me know what you would like to see on our "piece of the Net".

#### MIDWEST MINERAL SYMPOSIUM - UPDATE

The first Midwest Mineral Symposium will be held in Columbus OH on Saturday April 4, 1998, in conjunction the Central Ohio Mineral, Fossil, Gem & Jewelry Show. The Symposium Committee has now organized a Speaker Program and is currently making plans for a Poster Program. Copies of the Preliminary Program will be available at the Greenfield meeting.

#### UPCOMING FM MEETINGS & PROGRAMS

Saturday September 6, 1:00 PM (Eastern Standard Time), 4-H Fairgrounds, Hancock Co., Greenfield IN. Henry L. Barwood, Head, Mineral Resources Section, Indiana Geological Survey, "Occurrence of turquoise group minerals in the eastern United States".

Saturday November 1, afternoon, Cleveland Museum of Natural History, Cleveland OH. Since the FM meeting will be held in conjunction with the Micromineral Symposium, there is no separate FM program. The Micromineral Symposium, which is hosted by the Micromineral Society of the Cleveland Museum of Natural History, will run from Friday evening October 31 through Sunday afternoon November 2. The main speaker will be Joe Marty, a noted collector of Utah minerals.

Ernie Carlson

MINUTES MIDWEST CHAPTER FRIENDS OF MINERALOGY MEETING,  
JUNE 28, 1997

The meeting was held in conjunction with the Lawrence Co Rock Swap at the Monroe County Fairgrounds. Although the day was gorgeous, our regular meeting room was unavailable and we were closeted a tiny office area (not a suitable space for the excellent talk we received).

Henry Barwood called the meeting to order. Pat Westby announced fieldtrip for our pleasure on September 20, 1997, at Delphos, OH. The quarry yields fluorite and pyrite crystals. Kim Greeman reported the treasury contains \$1,343.91. Our recent fieldtrip to Magnet Cove, AR was reviewed, though the quartz locations were disappointing, wavellite was collected. At the Highway 51 site, carbonates, anatase, diopside, grossular and vesuvianite were collected. The group also collected at the "vanadium pits" and Maldon Mountain.

Henry introduced our speaker Dan Behnke. Dan's topic was the Flambeau Copper Mine, Ladysmith, WI. The ore body was discovered during a magnetometer survey in the 1960's, but due to the price of copper, it was unprofitable to mine. The ore body is what remains of a Proterozoic age (1.7 billion years old) deep sea smoker. The ore had been uplifted, overturned, eroded, and buried under 30 feet of till. The open pit mine was a half mile long, and 980 feet deep.

After investing \$28 million (\$20 million in environmental preparation), the mine opened in 1993, and completed mining in 1996. The ore, 1.9 million tons of massive sulfides, were shipped by rail to a smelter in Canada. Mineralization included chalcocite and bornite in the enrichment zone, native copper in the gossen zone, and numerous host minerals. Chalcocite pseudomorphs of hexagonal crystals with siderite, chalcocite with gold, chalcopyrite, arsenopyrite, pyrite, galena, marcasite, azurite, malachite, calcite, dolomite, and cuprite (needles and ring crystals). Numerous rare and new minerals were also found.

The ore, yielded 399 million tons of copper, 190,000 ounces of gold and 3.9 million ounces of silver. In addition, the Flambeau Mine was the source of outstanding mineral specimens. The developers were foresighted enough to hire a professional mineral collector to high-grade the ore before smelting. Although forced to show his mineral slides diagonally across the tiny room, they were excellent.

Submitted by Kim Greeman, Secretary/Treasurer.

**PAT WESTBY, FIELD TRIP CHAIRPERSON:**

I am working on getting us into the Suever Stone Quarry in Delphos, OH (see Dr Carlson's book "OHIO MINERALS") and the Indianapolis location for pyrite balls. Negotiations are still in progress for both of these trips, but it is hoped that our MSHA training will come through. So far, at least, it's got me in the front door! For further information please contact me at 937-299-8128.