

ROCK CHATTER

Published by West Central Illinois Rock and Mineral
Club of Macomb, Illinois
Member of AFMS, MWF, and GESCI

Objective: To promote interest and education in
Earth Sciences and all related fields.
Volume 23, Bulletin 2, February 2019

Jewel of the Desert, Kartchner Caverns State Park
Monday, February 4, 6:00 p.m.
Trinity Lutheran Church, 123 S. Campbell, Macomb

ALLUVIUM - February 2019

Just over a week out from our next meeting date and as of now conditions are not looking favorable for early February. Bitter cold is forecast for the entire week before the meeting and little relief is in sight beyond for the week of the 4th.

It will be touch and go about meeting plans as we progress.

Keep checking your email as cancellation will certainly be in play.

Meeting or not, show planning is continuing and we will be only a month out from the 2019 show. Updated news and plans should follow in the Rock Chatter.

This is a short Alluvium and maybe we will be able to meet on the 4th, maybe not.

If so, see you at 6 on 2/4.

Stay warm.

Rob

Dues Are Overdue!

If you have not paid your dues for 2019, you are on the overdue list. Families are \$15 per year, singles are \$10.

Checks can be made out to West Central Illinois Rock and Mineral Club or WCIRMC and mailed to our treasurer J.C. Moore. His address is 25235 N. IL Hwy. 97, Cuba, IL 61427.

NOTE: There was no meeting in January, so there are no minutes of the January meeting. Hope to see everyone at the February meeting if the weather permits. Our program is a video on Kartchner Caverns in Arizona.



News from the American Federation

2019 is the Midwest Federation's turn to host the American Federation Convention. The Cedar Valley Rocks and Minerals Society will be hosting both the MWF and AFMS Conventions at their show March 23-24. If you have not been to this show in Cedar Rapids, Iowa, this will be an excellent chance to attend. It is a large show with tremendous attendance figures the last several years.



News from the Midwest Federation

The MWF will be meeting in Cedar Rapid, Iowa, on March 23. The MWF Council of Delegates Meeting will be held on Saturday, March 23, at 1:00 p.m. Our club will need a delegate to represent us at the meeting.

This is not only a good time to learn about the business of the Midwest Federation, but a chance to meet other members of clubs throughout the parts of twelve states that make up the MWF.



News from Geodeland Earth Science Clubs, Inc.

The 2019 Geodeland Show is March 9-10 in the Western Illinois University Student Union Ballroom. The theme this year is Geodes. Be looking for some nice geodes in your collection to add to the club display, or do a separate display of your own. See Donna Moore for a form if you wish to do a display. Space reservation for displays must be in ASAP.

Geodeland's board of directors next meeting was postponed to February 9 because of bad weather. They will be completing details for 2019 and planning a theme for 2020. Please send suggestions to the Courseys, the Moores or Dee Sharf if you have suggestions for the 2019 theme or anything else about the Geodeland Show.

2019 SHOW CALENDAR

March 2019

1-3: RICHMOND, IN Eastern Indiana Gem & Geological Society Annual Show. Fri. & Sat. 10 am - 6 pm. Sun 11 am - 4 pm. Wayne County Fairgrounds, 861 N. Salisbury Rd., Richmond.

9: SKOKIE, IL Chicago Rock & Mineral Society 70th Silent Auction. 7 - 9 pm. St. Peter's United Church of Christ Gym, 8013 Laramie, Skokie.

9-10: WEST BEND, WI Kettle Moraine Geological Society Annual Show. Sat 10 am - 5 pm; Sun 10 am - 4 pm. Washington County Fair Park & Convention Center, 3000 Hwy PV, West Bend.

9-10: LIVONIA, MI Roamin Club Auction. Sat 11 am - 6 pm; Sun 12 noon - 6 pm. Schoolcraft Community College, 18600 Haggerty Rd., Livonia.

9-10: MACOMB, IL Geodeland Earth Science Clubs Annual Show. Sat 10 am - 6 pm; Sun 10 am - 5 pm. Western Illinois University Student Union Ballroom, Murray St., Macomb.

13-18: KANSAS CITY, MO Association of Earth Science Clubs of Greater Kansas City 59th Annual Show. Fri 10 am - 8 pm; Sat 10 am - 7 pm; Sun 10 am - 5 pm. 11730 NW Ambassador Dr., Kansas City.

22-24: BRIDGETON, MO Rock Hobby Club Annual Show. Fri 4 pm - 8 pm; Sat 10 am - 7 pm; Sun 10 am - 5 pm. Machinist Auditorium, 12365 St. Charles Rock Rd., Bridgeton.

23: TAYLOR, MI Midwest Mineralogical & Lapidary Society Rock Swap. 10 am - 5 pm. St. John's Lutheran Church, 13115 Telegraph Rd., Taylor.

23-24: WHEATON, IL Earth Science Club of Northern Illinois Annual Show. Sat 10 am - 5 pm; Sun 10 am - 4 pm. DuPage County Fairgrounds, 2015 Manchester Rd., Wheaton.

30-31: FORT DODGE, IA River Valley Rockhounds, Inc. Annual Show. Sat 9 am - 5 pm; Sun 11 am - 4 pm. Webster County Fairgrounds, 22770 Old Highway 159, Fort Dodge.

30-31: CANTON, OH Stark County Gem & Mineral Club Annual Show. Sat 9 am - 5 pm; Sun 10 am - 5 pm. Stark County Fairgrounds, 305 Wertz Ave, Canton.

2019 Conventions and Shows

March 23-24, 2019. CEDAR RAPIDS, IA The combined MWF and AFMS Convention will be hosted

by the Cedar Valley Rocks and Minerals Society. Saturday, 8:30 - 6:00 p.m., Sunday 9:30 a.m. - 4:00p.m. Hawkeye Downs, Expo Center. 44-- 6th St. SW, Cedar Rapids, IA.

April 13-14, 2019. CANTON, IL Fulton County Rockhounds Annual Show. Sat 10 am - 5 pm; Sun 10 am - 4 pm. Donnelson Center @ Wallace Park, 250 S. Ave. D, Canton

13-14: DECATUR, IL Central Illinois Gem & Mineral Club Annual Show. Sat 9 am - 5 pm; Sun 10 am - 4 pm. Lester Building, Progress City, 4140 E 2nd Progress St., Decatur.

August 24-25, 2019. EAST PEORIA, IL PAS Geology Annual Show. Sat 9 am - 5 pm; Sun 10 am - 5 pm. Eastside Center, 1 Eastside Dr., East Peoria

October 5-6, 2019. SPRINGFIELD, IL Lincoln Orbit Earth Science Society Annual Show. Sat 10 am - 6 pm; Sun 10 am - 5 pm. Orr Building, Illinois State Fairgrounds, 801 E. Sangamon Ave, Springfield.

WISCONSIN'S MOONSTONE

by Dr. William S. Cordua
Emeritus professor of Geology
University of Wisconsin – River Falls

Imagine an October full moon in Wisconsin glowing ghostly blue to yellow as it seems to float over the newly harvested farm fields. Or is this captured in the rock? In Wisconsin's own moonstone?

Wisconsin moonstone has been known for decades, but only recently have skilled lapidarists learned to work it to bring out its full beauty. This find surprises non-residents, who at generally associate Wisconsin gemstones with Lake Superior agates and nothing else. What is this material? How did it form? What causes its optical effect?

The moonstone localities are on private land in central Wisconsin, not far from Wausau in Marathon County. The mineral is a type of feldspar known as anorthoclase. This formed as a rock-forming mineral within the Wausau Igneous Complex, a series of plutons intruded between 1.52-1.48 billion years ago. There are at least 4 major intrusive pulses within the complex.

The anorthoclase is in the Stettin pluton, the earliest, least silicic and most alkalic of the plutons of the Wausau complex. This body is complexly zoned, largely circular in outcrop and has a diameter of about 4 miles. It is mostly made of syenite, an igneous rock resembling granite, but lower in silica and higher in alkali elements such as potassium and sodium. As such, it lacks quartz,

but does contain a lot of alkali feldspar. Further complicating the geology is the intrusion of later pegmatite dikes. Some especially silica-poor varieties sport such odd minerals as nepheline, sodalite, fayalite, and sodium rich amphiboles and pyroxenes. Zircon, thorium, and various rare earth element minerals can be found in this pluton. Large prismatic crystals of arfvedsonite and nice green radiating groups of aegirine (acmite) crystals have been collected for years from these rocks. It is also the pegmatite dikes that contain the anorthoclase showing the moonstone effect.

The moonstone has been found in small pits and quarries and also in farm fields where masses weather out and get frost-heaved to the surface. The weathered masses of coarse cleavable feldspar may at first not look too interesting, but at the right angle the moonstone effect can be seen. The feldspar has two charge and bounding capacity, so fit readily in the same niches in the feldspar. But sodium and potassium aren't enough alike. If the feldspar cools down slowly, to below 400 degrees C, the feldspar structure contracts in size, and sodium and potassium are no longer good interchangeable fits. The homogenous anorthoclase splits on a fine scale into intergrown potassium feldspar and albite. Sometimes the bands of alternating minerals are coarse enough to see. Other times they are microscopic. If they are just the right size and spacing, they scatter the light that penetrates the various layers in the mineral – producing the moonstone effect, or schiller. The only anorthoclase that is truly not a mixture is that which cools very rapidly, such as in lava flows, so the separation cannot occur,

and the mineral is frozen into its high temperature form. The material at Wausau cooled slowly, so isn't, strictly speaking, anorthoclase anymore, but an exsolved mixture.

The crystalline structure controls the orientation of these exsolution bands, hence the effect is seen better on some surfaces (the {010} cleavage for example) than at others. This is one reason why shaping the rough stone takes such skill. Other challenges are the weathered nature of some of the stone, and exploiting the cleavage directions inherent in the feldspar.

Polished moonstone fragment several centimeters long showing the moonstone effect.

Image from Bill Schoenfuss and Moonlight photography.

The master of processing these stones is Bill Schoenfuss of Wausau, Wisconsin. Bill often exhibits and sells his beautifully prepared moonstone at shows in the upper midwest. He can be contacted at schoenfuss

Moonstone has been prized as a gem since antiquity, often characterized as being like solidified moonbeams. The Greeks and Romans both related the gem to their moon gods and goddesses. The American Gem Society considers moonstone an alternate birthstone for June.

From the Show-Me Rockhounds, Kansas City, Website

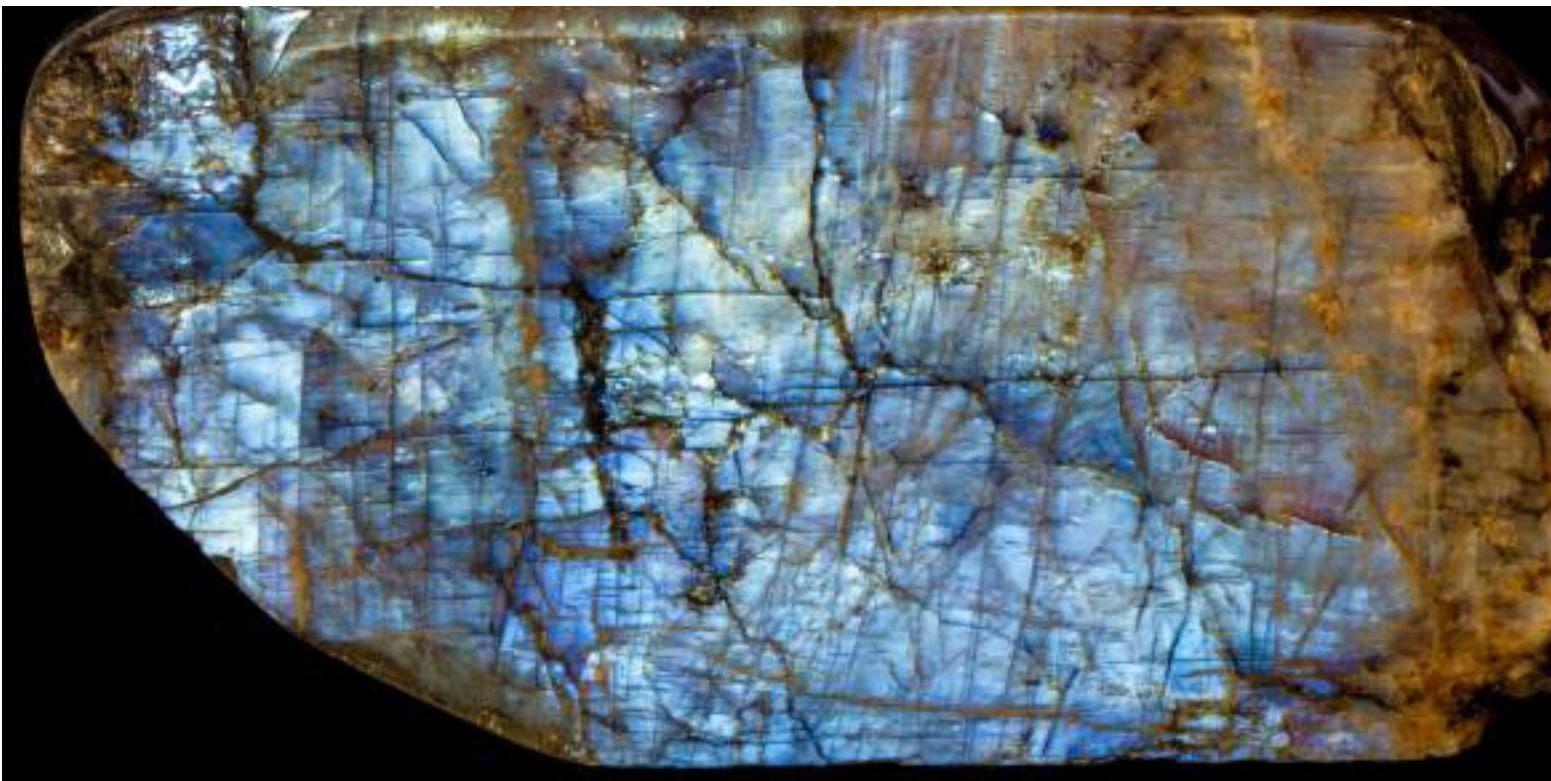


Image from Bill Schoenfuss and Moonlight photography.

**See you on February 4,
6:00 p.m.
weather permitting.
Watch e-mail or call
Rob, Jackie or the
Moore's if there is a
question as to whether
we will meet.**

WCIR&MC Officers

President	Rob Heath 772-2729
Vice-President	Donna Moore 789-6501
Secretary	Jackie Sullivan 313-2826
Assistant Secretary	Dee Sharf 253-7300
Treasurer	J.C. Moore 789-6501
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GESCI Board Representatives	J.C. Moore 789-6501 Dee Sharf 253-7300 Donna Moore 789-6501

All numbers are in 309 area code.

Meetings

The first Monday of each month (except September, which is the second Monday) at the Trinity Lutheran Church, 123 S. Campbell St., Macomb at 6:00 p.m. (Oct. - March). April through September meetings at 7:00 p.m. May meeting is usually held at Western Illinois University. Call Rob or Donna if you are concerned about weather related cancellations or have other questions about meetings.

Dues (per year)

Individual	\$10.00
Family or individual sponsoring juniors	\$15.00

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