

# On the Rocks



*A Newsletter of the Michigan Basin Geological Society*  
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## EVENTS

**April 27, 2002:** MBGS Fieldtrip Detroit Salt Mine Tour

**May 15, 2002:** MBGS Meeting, the speaker is Dr. Allan Johnson and his topic is "Douglass Houghton and Early Surveyors Start the First Great US Mining Rush in Michigan"

**May 17-19, 2002:** Karst of NE Lower Michigan fieldtrip, sponsored by the DEQ Geologic Outreach Committee. The trip is open to all professionals and their families and will be lead by Tyrone Black.

**May 31-June 2, 2002:** Glacial Field Trip of Eastern UP Midwest and Meeting of the Friends of the Pleistocene at Grand Marais, Michigan.

**June 20, 2002:** Glacial Geology of Berrien County field trip sponsored by the DEQ Geology Outreach Committee. This one day field trip/training for State of Michigan geologists is also open to all geologists and other interested parties.

**October 6-8, 2002:** AAPG annual Eastern Section meeting, Champaign, Illinois.

**October 22-25, 2002:** 9th Annual INTERNATIONAL PETROLEUM ENVIRONMENTAL CONFERENCE, in Albuquerque, New Mexico.

## **Biography**

Allan M. Johnson was born and raised in Muskegon, MI.

Education: Muskegon Sr. High, Muskegon Community College, BS, Geological Engineering, 1965, and MS, 1967, Michigan College of Mining and Technology; PhD. Geology, 1971, Michigan Technological University.

Employment: Institute of Mineral Research at MTU 1970-86, working on development of Michigan mineral resources for government and industry. Many projects on industrial minerals. Also extensive research on acid drainage, mine subsidence and abandoned mines in Michigan and throughout country. Director, Mineral Technology and Biotechnology at BioSource Institute, MTU 1986-1989 with similar research. Transferred to Department of Mining Engineering 1989 where I taught courses in mining methods, mine cost engineering, solution mining, open pit mine design, and environmental impacts of mining until 1999.

Retired in August 1998. Now Professor Emeritus of Mining Engineering living in Houghton, Michigan. Still active in UP Section of Society of Mining, Metallurgy and Exploration, Inc. and a part-time consultant working on topics of special interest (abandoned mines and industrial minerals, especially building, decorative and landscape stone). Also transcribing Douglass Houghton's long-lost 1840 field notes and editing them for publication.

### **Title: "Douglass Houghton and Early Surveyors Start the First Great US Mining Rush in Michigan"**

The near war between Michigan, then a Territory, and Ohio, already a State, over the "Toledo Strip" delayed Michigan's entry to statehood four years until 1837. In exchange for the lost southern strip of land of some 400 square miles, Michigan was granted 9000 square miles of the western UP, much of it still unceded Indian land. With approval of the treaty of LaPointe in 1843, the western UP and its largely unknown mineral resources of iron ore and copper became Michigan's.

Federal Deputy Surveyors worked long and hard under severe field conditions to complete the linear survey of the UP, including the new territory west of the Escanaba and Chocolay Rivers. William Austin Burt and his sons carried the meridian line across the Straits of Mackinaw in 1840 with John Mullet and the survey of the UP began. In 1844 Douglass Houghton, State Geologist, won a \$20,000 contract from the federal government to combine geological surveys with the linear surveys. Burt and his party worked under this contract and his recent, and timely, invention of the solar compass enabled accurate surveys to be made over the iron ranges of the western UP, resulting in the first discovery of iron ore in south of Teal Lake in 1844. Continuation of the Houghton's earlier explorations in the UP (1831-32 with Henry Schoolcraft, and 1840 as State Geologist along the south shore of Lake Superior) led to the first great mining rush in the United States ----- the native copper district of the Keweenaw Peninsula. By 1844 the famous fissure deposit at the Cliff mine was producing multi-ton masses of the red metal, astounding non-believing scientists and mining men the world over.

Unfortunately, while pursuing the combined survey, and under duress to complete the work on time, Houghton took one too many risks in traveling along the north shore of the Keweenaw Peninsula on Lake Superior to reach Eagle River from the west. On October 13, 1845, an earlier mild land breeze changed to a severe northwest gale before Houghton and his crew reached the shelter of Eagle River. His small craft was capsized and out of the crew of five, only his two voyageurs survived. Houghton's brilliant career was tragically ended at the age of 36 years and with it much of the geological knowledge of Michigan's metallic mineral resources that was to be written up following the 1845 field season.

# **MBGS-SPE Meeting**

**May 15, 2002**

Location: Waterfront Inn  
2061 US 31 North Traverse City, Michigan

Schedule: 4:30-5:30 PM Executive Committee Meeting  
5:30-6:15 PM Cash Bar  
6:15-7:15 PM Dinner

Cost \$25.00/member \$10.00 Student (includes dinner)

Topic: "Douglass Houghton and Early Surveyors Start the First  
Great US Mining Rush in Michigan"

By Dr. Allan M. Johnson

## **MBGS-SPE Dinner Meeting Reservation**

Name \_\_\_\_\_

Enclosed Registration Fee \_\_\_\_\_

Please make your check out to the MBGS and return to Bruce Arndt by  
May 13, 2002.

Bruce Arndt  
508 W. Michigan Ave.  
P. O. Box 763  
Jackson, Michigan 49204  
Ph: 517-782-8206 Fax: 517-782-8205

## **NEW MICHIGAN BASIN GEOLOGICAL SOCIETY PUBLICATIONS**

**Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998,** Devonian to Silurian Rock Fieldtrips to MI, WI, IL and Ontario, 2000, \$15

**Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991 ,** Northern Devonian and UP Fieldtrips in MI, 2001, \$10

**Historical CD #3: Six out-of-print publications from 1947. 1959, 1983 and 1991,** Northern Devonian and UP Fieldtrips in MI, 2001, \$12

### **Special Price - Historical CD #1, #2 & #3, \$30**

**Stratigraphic Lexicon for Michigan**, 2001, prepared by MBGS and published by DEQ, 56 pp., chart, \$2.65 picked up or \$4 mailed, Can be ordered from MBGS or Geological Survey Div. of the DEQ

Price Includes postage, handling and any applicable sales tax. Orders for publications should be prepaid in U.S. Funds and addressed to:

MBGS - Publications  
c/o Dept. of Geological Sciences  
206 Natural Sciences Building  
Michigan State University  
East Lansing, Michigan 48824-1115

## **FIELD TRIP: Karst of NE Lower Michigan**

When: Friday – Sunday MAY 17 - 19, 2002

Where: Fletcher Motel (& Grove Restaurant), Alpena

Trip Leader: Tyrone Black

**RSVP to Tyrone Black at ([blackt@michigan.gov](mailto:blackt@michigan.gov)) AND Chris Christensen at ([christec@michigan.gov](mailto:christec@michigan.gov)).**

The DEQ Geologist Outreach program will offer a field trip on the Karst geology of the Alpena area on May 17, 18, & 19. This trip will be a joint trip, also extended to members of the MBGS, and AIPG. This trip is intended to be on your own time and expense. Family members and friends are welcome.

### **Agenda:**

Friday 5/17/02 Meet at Fletcher Motel at 7:00 PM to 9:00 PM group orientation meeting, handouts and presentation by Tyrone Black  
There will be a CASH bar

Saturday 5/18/02

9:00 AM - Form up (car pool) and depart from Jesse Besser Museum and Planetarium parking lot (The Museum is about 1/3 mile from the motel)

(Details of stops will be given out on Friday evening)  
return by 6:00 PM

Sunday 5/19/02

8:00 AM - Form up (NO car pool necessary) and depart from Fletcher Motel parking lot  
Continue with Karst sites  
Rockport Quarry – fossil collecting  
Depart for home

### **LODGING**

**Fletcher Motel (& Grove Restaurant), 1001 US 23 N., Alpena •354-4191  
•1-800-334-5920**

A block of 30 rooms have been reserved at the Fletcher Motel (\$48 ea) for people attending the field trip. People need to make their own reservations and state they are attending the Geologic Outreach Karst Fieldtrip. The hotel needs reservations by **May 3rd** or they must release the unreserved rooms.

### **Alpena Karst field trip information sources:**

(MBGS has seven 1995 Guidebooks left, but the 1983 and 1995 guidebooks and other guidebooks are available on MBGS CD #'s 2 and 3. They have a sale of all three CD's for \$30. For copies contact: Tom Hoane, DNR - Forest, Mineral and Fire Management Division, Ph: 517-241-3769 Fax: 517-335-3264, [hoanet@state.mi.us](mailto:hoanet@state.mi.us))

### **Some words from Ty:**

"The trip will have a gathering Friday night with a short talk and images, an all day field trip on Saturday, returning by 6 PM. All sites will be standard field hazards, the most dangerous will be at the sinkhole preserve. With "family style" I will visit fewer sites, those that are safest to negotiate with a crowd (but it will include the sinkhole preserve in Alpena County). We will spend a longer time looking at more variety of features at fewer stops than on the MBGS trips I have done in the past."

### **Other things to do in the area:**

The Jesse Besser Museum and Planetarium will be open during the field trip.

Museum: \$3.00 for adults, \$2.00 seniors and children 5-17, under 5 free. Hours; Fridays 10-5, Saturdays 10-5 and Sundays noon-4. The weekend of the field trip they will have all of the permanent displays open, Lumbering Gallery, Avenue of Shops, Historic Alpena (an outdoor exhibit), Alpena 1920's-1940's plus a special exhibit called Bustles to Bloomers featuring 1870's-1920's clothing.

Planetarium: \$1.00/person and they have a show scheduled for 2:00 pm on Sunday, May 19th. It will be either the spring or summer sky (doesn't know exactly when it changes from spring to summer but was thinking that it would most likely be spring since summer isn't technically until June).

**There is an opportunity to take a ferry-boat trip to view off-shore karst.** Let Ty & Chris know if you're interested in this (\$10-15 per person). IF there are enough people for a load (15 person per trip), then maybe we can arrange for 1-2 trips.

Visit the Alpena webpage for more local information.

**REMEMBER to RSVP to Ty & Chris and make your room reservations by May 3<sup>rd</sup>.**

## **FIELD TRIP: Glacial Geology of Berrien County**

**When: Thursday June 20, 2002**

**Start Time: 9:30 a.m.**

### *Non-State geologists are also welcome.*

This trip is unusual in that it is being scheduled to be held during work hours. The trip content will reflect the value of understanding and properly describing glacial geology in the conduct of our various job duties. Please discuss this activity with your supervisors to obtain permission to attend on work time and expense, if possible.

The Geology Outreach Committee will sponsor a one day glacial geology field trip/training on Thursday June 20, 2002 for State geologists, at Berrien County. On this trip we plan to **evaluate complex glacial successions and discuss the best ways to describe the glacial sediments**. The trip will be run by Kevin Kincare, GSD and organized by Larry Bean, WMD.

**We will decide on a meeting place in Berrien County at a later date.**

**We will start at 9:30**, which will require Lansing staff to leave at 7:30.

**Car pooling is a MUST.** People should car pool from the Lansing and district offices. We will provide a list of attendees closer to the training date so that you can coordinate a ride. People should pack their own lunches, because there are 5 stops that we want to hit and not much time.

**Lodging:** For people who want to stay over the night before, the Benton Harbor Days Inn (right off I-94 at US-31 south) has been charging the GSD field crew around \$45/night which includes a free breakfast at the restaurant next door.

**We will send out an itinerary at a later date for those people who sign up to attend. To sign up or to ask questions please contact Larry Bean, WMD Livonia, at: [beanl@michigan.gov](mailto:beanl@michigan.gov) or 734-953-1469.**

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Senior Geologist  
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Fax (616-567-9440)

## **AAPG Foundation Energy Resources Library**

This facility can be accessed through the AAPG's homepage ([www.aapg.org](http://www.aapg.org)) or directly at [www.aapg.org/foundation/library/index.html](http://www.aapg.org/foundation/library/index.html). The Foundation Library is open from 8:30 am to 4:30 pm CST. The telephone is 918-560-2620; fax is 918-560-2642. E-mail is [library@aapg.org](mailto:library@aapg.org).

# Friends of the Pleistocene Glacial Field Trip and Meeting

MAKE PLANS NOW TO ATTEND THE 2002 **MIDWEST FOP MEETING** IN EASTERN UPPER MICHIGAN, **May 31-June 2, 2002!**

## **TO ASSURE YOUR SPOT, MAKE RESERVATIONS AND PAYMENT BY 5/1/02**

**What:** The Midwest Friends of the Pleistocene

**When:** May 31-June 2, 2002

**Where:** Grand Marais, MI (100 miles east of Marquette, MI along the SE shore of Lake Superior).

**Cost: \$60.00** includes: Trip field guide, two breakfast buffets, two sack lunches, buffet banquet (Saturday night), refreshments in the field, and bus transportation on Saturday. Make checks for food, etc. **payable to Friends of the Pleistocene and mail to Walter L. Loope, U.S.**

**Geological Survey, P.O. Box 40, Munising MI 49862.** We will know you are coming when we get your money (confirmation of receipt via e-mail; paper receipts will be provided on site).

Please contact trip organizers John Anderton (Northern Michigan University, Marquette; 906-227-1140; [janderto@nmu.edu](mailto:janderto@nmu.edu) )

or Walt Loope (U.S. Geological Survey, Munising; 906-387-3116; [walter\\_loope@usgs.gov](mailto:walter_loope@usgs.gov) ) with questions.

### Itinerary:

5/31 - We will gather in Grand Marais the evening of 5/31

6/1 - travel to sites within 50 miles and return to Grand Marais for the night (**and the Banquet**).

6/2 - we will travel by individual vehicles west toward Marquette via Seney and the Lake Superior shoreline and adjourn in the PM just south of Marquette.

### Topics to be discussed in the field include:

- details of deglaciation (Marquette stadial) in the vicinity of Grand Marais
- beach-ridge evidence of Holocene lake-level changes on Lake Superior
- history of post-Lake Algonquin sand dunes of inland eastern Upper Michigan
- mid- and late-Holocene coastal dune building in the vicinity of Grand Marais
- a renaissance in the use of geomorphology in soil survey by USDA
- Holocene history of Grand Sable Lake
- recent geoarchaeological investigations of Paleo-Indian and Archaic environments.
- a field demonstration of Ground Penetrating Radar

### Lodging:

**Make your own room reservations and pay the North Shore Lodge directly (906-494-2361).**

The **North Shore Lodge** in Grand Marais has been reserved for the meeting. To reach the Lodge, take M-77 north from its junction with M-28 at Seney in north central Upper Michigan. The Lodge is located at the north end of Canal Street, on Lake Superior. A variety of accommodations (e.g. doubles, cabins, singles) is available. A per room (i.e. double) cost of \$48.00 has been negotiated. Please share a room if possible so all can be accommodated.

**Camping is available at municipally-owned Woodland Park (906-494-2613).**