

# On the Rocks



*A Newsletter of the Michigan Basin Geological Society*

2005-2006 Number 6

[www.mbgs.org](http://www.mbgs.org)

February 2006

## EVENTS

**February 8, 2006:** This month's meeting will be presented by John Esch. His talk is entitled, "How I Spend My Summer Vacations, A Michigan Geologist Volunteers to Provide Clean Water in Africa." We will return to the roots of MBGS this month, convening our **meeting in Room 116 of the MSU Natural Science Building**. Directions, map, abstract, and biography are below.

**May 8-12, 2006:** Institute of Lake Superior Geology meeting and field trips. See info below and at following link. <http://www.lakesuperiorgeology.org/Sault2006/index.html>

## GEOLOGY SCHOLARSHIPS AVAILABLE

The Michigan Basin Geological Society will award one or more scholarships of up to \$500 to deserving student(s) majoring in the Geological Sciences. The scholarship will be awarded in May of 2006. Candidates should use a modified AAPG "Grants in Aid" form to submit their application. Preference will be given for student research in the Michigan Basin. If you have any questions or need application forms please **call or e-mail Leonard Espinosa at 517-335-3248 or [espinosl@michigan.gov](mailto:espinosl@michigan.gov)**

Send applications by April 1, 2006 to:

Leonard Espinosa  
Forest Mineral & Fire Management, MDNR  
PO Box 30452  
Lansing, MI 48909

## **2004-2005 MBGS Officers**

**The Executive Committee meeting minutes are available on the website.**

PRESIDENT: DR. ROBB GILLESPIE,  
WMU Geology Department  
Ph: 269-387-5354, fax 269-387-5513  
[robb.gillespie@comcast.net](mailto:robb.gillespie@comcast.net) or  
[robb.gillespie@wmich.edu](mailto:robb.gillespie@wmich.edu)

VICE PRESIDENT: ROBERT REYNOLDS,  
Reynolds Geological, LLC  
Ph: 517-676-9936, fax 517-676-8169  
[reynoldsgeo@voyager.net](mailto:reynoldsgeo@voyager.net)

SECRETARY: DAVID BAXTER,  
Petrodata Resources  
Ph: 517-669-5409  
[PetroDataRes@comcast.net](mailto:PetroDataRes@comcast.net)

TREASURER & PUBLICATIONS: TOM HOANE,  
FMFM, DNR  
Ph: Bus 517-241-3769, fax 517-373-2443  
[hoanet@michigan.gov](mailto:hoanet@michigan.gov)

BUSINESS MANAGER: LEONARD ESPINOSA  
FMFM, DNR  
Ph: 517-335-3248, Fax 517-373-2443  
[espinosl@michigan.gov](mailto:espinosl@michigan.gov)

PAST-PRESIDENT: DR. MICHAEL GRAMMER,  
WMU Geology Department  
Ph: 269-387-3667, fax 269-387-5513  
[michael.grammer@wmich.edu](mailto:michael.grammer@wmich.edu)

CO-FIELDTRIP DIRECTORS:  
MARK WOLLENSAK, CPG  
HAMP, MATHEWS & ASSOC, Inc.  
Ph: 517-641-7333 Fax 517-641-7337  
Cell 517-719-8321  
[wollensak@voyager.net](mailto:wollensak@voyager.net)

LEONARD ESPINOSA, FMFM, DNR  
Ph: 517-335-3248, Fax 517-373-2443  
[espinosl@michigan.gov](mailto:espinosl@michigan.gov)

NEWSLETTER EDITOR: TOM WELLMAN,  
FMFM, DNR  
Ph: 517-373-7666, Fax 517-373-2443  
[wellmant@michigan.gov](mailto:wellmant@michigan.gov)

ELECTRONIC PUBLICATIONS, MARK WOLLENSAK  
(see above)

WEBMASTER: GREG VARNUM  
[me@gregvarnum.com](mailto:me@gregvarnum.com)

## **University Talks and Seminars Websites**

Western Michigan University:  
[www.wmich.edu/geology/SeminarGeos.html](http://www.wmich.edu/geology/SeminarGeos.html)

Michigan State University:  
[www.glg.msu.edu/news/lectures.html](http://www.glg.msu.edu/news/lectures.html)

University of Michigan, Turner Lecture Series:  
[www.geo.lsa.umich.edu/announce/turner02b.html](http://www.geo.lsa.umich.edu/announce/turner02b.html)

Michigan AIPG Section website: [www.aipg-mi.org](http://www.aipg-mi.org).

## **MEETING CANCELLATION POLICY**

Monthly meetings will be automatically cancelled whenever the National Weather Service issues a "Storm Warning" for the Lansing area. If driving conditions are poor but a "Warning" has not been issued please contact any member of the Executive Committee for the status of the meeting.

## **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, Compiled 2000, \$15

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

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

**Historical CD #4: Six out-of-print publications from 1957, 1958, 1961, 1967, 1968, and 1970**, Northern LP and UP Fieldtrips in MI, Compiled 2004, \$15

**Special Price - Historical CDs #1, #2, #3, & #4 \$40**

**NE Lower Peninsula Geological Field Conf**, 2004, T. Black & M. Wollensak, 133 pp, illus, maps, on **CD \$10**.

**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

Prices Include postage, handling and any applicable sales tax. **MBGS members receive a 10% discount** on MBGS publications. Orders for publications should be prepaid in U.S. Funds and addressed to:  
MBGS - Publications  
P.O. Box 18074  
Lansing, MI 48901-8074

## **MBGS Mug and Jacket Sale**

The Michigan Basin Geological Society is offering mugs and jackets with the society logo for sale. The mugs are \$5.00 each. The jackets are \$60.00 each plus postage. Please contact Dan McGuire at: Phone (517) 772-5219, Fax (517) 772-7021, or [danmcguire@sensible-net.com](mailto:danmcguire@sensible-net.com). Remember to include the correct size of the jacket and the quantity of each item. Checks should be made out to the MBGS.

# MBGS MEETING

**February 8, 2006 (WEDNESDAY)**

**New Venue and Schedule**  
**Room 116, Natural Science Bldg, MSU**

Schedule: 4:15-5:30pm Executive Committee Dinner at Peanut Barrel  
5:30-6:30pm Executive Committee Meeting, Room 207, NSB, MSU  
6:30-7:00pm Refreshments in Room 207, NSB, MSU  
7:00pm Presentation in Room 116, NSB, MSU

No Charge for This Meeting

***Topic: "How I Spend My Summer Vacations, A Michigan Geologist Volunteers to Help Provide Clean Water in Africa."***

by  
John Esch

## MBGS Dinner Meeting Reservation

Name \_\_\_\_\_

Number attending \_\_\_\_\_

Even though there is no charge for this meeting please advise Leonard Espinosa by **February 7, 2006**, to help plan the logistics. Send reservations to:

Leonard Espinosa  
P.O. Box 18074  
Lansing, MI 48901-8074  
Ph: Bus Ph: 517-335-3248, Fax 517-373-2443  
E-mail: [espinosl@michigan.gov](mailto:espinosl@michigan.gov)

## **How I Spend My Summer Vacations, A Michigan Geologist Volunteers to Help Provide Clean Water in Africa**

By John Esch

Lack of access to fresh potable water is one of the leading causes of death in developing nations. The World Health Organization (WHO) and UNICEF have estimated 1.1 billion people do not have access to safe clean drinking water. Every 8 seconds a child dies due to water related diseases. Access to clean fresh water, basic hygiene and sanitation knowledge are fundamental things we take for granted here in the western world. These things are a matter of life and death in the third world if you don't have access to them.

This lack of access and to fresh water is difficult to appreciate in our generally water abundant Michigan which is surrounded by 20% of the world's fresh water. In much of Africa, life expectancy is only 40 years. Most of the surface water is contaminated and unsafe to drink. Women and children commonly walk 2-3 hours daily one-way to the nearest polluted stream or water hole, or dug well and fill buckets and then walk back.

This talk will present some of the experiences, challenges, and adventures from five trips I have had the opportunity to take to Zambia and Ethiopia over the last 3 years. The trips involved at different times, geological/drilling surveys to determine appropriate drilling techniques, repairing water well hand pumps, and providing them the tools, spare parts and training for local teams to repair them. In addition, basic sanitation, hygiene and field water quality analysis training were given. Later trips involved overseeing UNICEF and USAID funded drilling projects and working with a local host agency hydrogeologist on well siting to minimize the number of dry holes which are common in hard rock territory. The well siting involved the use of GIS software and GPS equipment, as well as the use of local geological data and free satellite imagery and free GIS data to aid in lineament determination and performing low cost geophysical techniques.

The trips have been with Lifewater International ([www.lifewater.org](http://www.lifewater.org)) which is a Christian non-profit non-denominational organization that uses volunteers who are specialists in the water resource-health fields, who go around the world drilling wells and training people how to drill wells, repair of hand pumps, and provide knowledge of basic hygiene and sanitation.

A number of experiences will be presented including, a poisonous green mamba snake crawling over my boot while trying to lift 30 feet of pipe and a pump into a well, and trying to determine the bedrock lithology at depth from the color and texture of 15 feet tall termite mounds.

Despite the diesel smoked filled long drives in the back of a truck over bad, dusty and dangerous roads, drinking nothing but Coke for a week and bouts of sickness, these trips have been the most challenging, exciting and rewarding thing I have ever done. It is a wonderful to be able to use your technical skills as a geologist in helping provide such a basic need in everyone's life - such as access to clean safe drinking water.

## Biography For John Esch

John is a senior geologist/hydrogeologist with the Michigan Department of Environmental Quality, Remediation and Redevelopment Division, Superfund Section, Geological Support Unit. For the last 8 years he has been a project geologist (geodog) on 12 Superfund sites here in Michigan. He Chairs the DEQ GIS Committee.

John started out his career in 1984 as a geologist with Aangstrom Precision Corporation. He led a geophysical survey crew for one year and later worked as a “computer geologist” mapping the structure and isopach maps of every Paleozoic formation in the Lower Peninsula of Michigan. John constructed the first ever comprehensive glacial drift isopach and bedrock topography maps of the Lower Peninsula of Michigan as well as mapping the major faults in the basin. In 1990, John left the oil patch and took a job with the DNR (later DEQ) conducting hydrogeologic investigations at contamination sites across the state.

John’s interests include studying the structural geology of the Michigan Basin, use of unconventional geophysical techniques, groundwater surface water interactions, and the use of GIS and 3D visualization techniques to help understand subsurface geology.

## MSU Campus Map

Refreshments and presentation will be held in the Natural Science Building. Prior to 6:00pm parking will be available in Lot 9. After 6:00pm parking is open, Lot 7 is the closest to the Natural Science Building.

