



# ON THE ROCKS



## A Newsletter of the Michigan Basin Geological Society

2008-2009 Number 6

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

February 2009

### EVENTS

**Wednesday, February 11, 2009:** MBGS meeting will be held at Michigan State University, Natural Science building at 7:00 pm in room 204. The speaker is L.W. (Lee) Smith, from Optimal Value Energy, LLC, presenting "An Ignored Michigan Resource - Geologic Storage of Carbon Dioxide". See talk details and location information included in the newsletter.

### Notes from the editor

- As many of you may have already heard, Dr. William J. Gregg, Associate Professor of Geology, Michigan Technological University, Department of Geological and Mining Engineering and Sciences, died tragically on December 6, 2008. Anyone who had the pleasure of working with and/or learning from Dr. Gregg is deeply saddened by the sudden loss to the geologic community. A tribute website has been established at:  
[http://www.geo.mtu.edu/news/2008/William\\_J\\_Gregg.html](http://www.geo.mtu.edu/news/2008/William_J_Gregg.html)
- MBGS has engaged a new webmaster for updating/maintaining our web page. We are excited to bring to MBGS the expertise of Wendy Carroll to assist in webpage design. Look for changes and updates to our web page in the near future.
- MBGS is looking to fill the position of Vice President for the 2009-2010 year. Anyone who has an interest in volunteering please contact any of the current executive committee members listed on page 3 of this newsletter.
- MBGS has a **core display** available for use that visually demonstrates permeability/porosity. There are posters available for use with the core display. Contact Mark Wollensak at [wollensak@voyager.net](mailto:wollensak@voyager.net) to reserve this great educational tool.





## MBGS Field Trips Update

### Copper Country with MBGS!!

The Copper Country Trip is in its final planning stages. Registration form and cost information will be available in the next couple of weeks. Dates are set for June 4-7, 2009.

Some of the highlights of the trip include:

- Dr. Larry Lankton to talk on the “Boom to Bust: The Life Cycle of a Great Mining District”.
- Scott See (MTU PhD candidate) and Bill Haller and will lead the Friday historical tour of the area.
- Dr. Bill Rose to talk on the “Geology of the Mid-Continent Rift, Keweenaw Peninsula, Michigan”.
- Surface and underground tours of the Adventure Mine, Quincy Mine and Caledonia Mines.
- Specimen collecting opportunities.
- Guided tour of Seaman’s Mineralogical Museum by Dr, Ted Bornhorst.

REGISTRATION WILL BE LIMITED TO 30 PARTICIPANTS

MUST BE A MEMBER TO PARTICIPATE

APPLICATIONS ARE AVAILBLE AT MBGS.ORG

**MBGS and the Michigan Geological Repository for Research and Education**  
**are sponsoring the**  
**2010 AAPG Eastern Section Meeting in Kalamazoo, Michigan**

**Date: September 26 – 28, 2010**

**Venue: Radisson Plaza Hotel and Suites**



American Association of Petroleum Geologists

An International Geological Organization

We are in need of volunteers to chair committees and to assist on committees. This is a great opportunity to work and meet others in our profession. A list of the committees positions that are still in need of a chair are listed below. Find a committee you are enthusiastic about and join us in showing the Eastern Section AAPG what a great host Michigan can be!!!

### **Committee Chairs Still Needed**

Sponsorships  
Webmaster  
Judging

Audio/Visual  
Graphics and Media  
Guest Programs

Student Volunteers  
Coordinators

Please contact Robb Gillespie at [robb.gillespie@wmich.edu](mailto:robb.gillespie@wmich.edu) to get involved.

**Important Information:** Committee tasks/descriptions are found on the AAPG-ES website at the following link: <http://karl.nrcce.wvu.edu/esaapg/Esguide.pdf>

### **Current Meeting Itinerary**

Sept 25<sup>th</sup> Sat: Field Trips  
 Sept 26<sup>th</sup> Sun: Meeting Program  
 Sept 27<sup>th</sup> Mon: Meeting Program, also icebreaker/social at Air Zoo in evening  
 Sept 28<sup>th</sup> Tues: Meeting Program  
 Sept 29<sup>th</sup> Wed: Field Trips

## **2007-2008 MBGS Officers**

The Executive Committee meeting minutes are available on our website at [www.mbgs.org](http://www.mbgs.org)

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## **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, 2000, \$15**

**Historical CD #2: Four out-of-print publications from 1947, 1959, 1983 and 1991, 2001, \$15**

**Historical CD #3: Six out-of-print publications from 1948, 1952, 1990 - 1995, 2001, \$15**

**Historical CD #4: Six out-of-print publications from 1957, 1958, 1961, 1967, 1968 and 1970, 2004, \$15**

**Historical CD #5: Five out-of-print publications from 1971, 1989, 2001, and Oil & Gas Fields Vol. 1 & 2, 1969 & 1992, 2006, \$50**

**(NEW) Historical CD #6: Six out-of-print publications from 1946, 1953, 1963, 1966, 1978 & 1987 plus the Richfield Challenge, 1952 & Tom Knapp's MS Thesis, 2007 \$15.**

**\*\*Special Price\*\* - Historical CDs 1 - 6 \$85**

**NE Lower Peninsula Geological Field Conf., 2004, T. Black, M. Wollensak, On CD \$10**

**Stratigraphic Lexicon for Michigan, 2001, prepared by MBGS and published by DEQ, \$4**

**(NEW) Robert E. Mosher Geological Studies**

A lifetime of geological research on Silurian Rocks with John T. Sanford. The disks are organized chronologically and include field work in North America and Europe. 2007, 2 CDs \$35.

Price Includes postage, handling and any applicable sales tax. Orders for publications should be **prepaid in U.S. Funds** and addressed to:  
MBGS - Publications, P O Box 18074, Lansing MI 48901-8074



# MBGS Meeting

## Wednesday, February 11, 2009

Location: MSU, Natural Science Building

The talk will begin at **7:00 PM in room 204.**

Refreshments will be provided after the talk in the Natural Science Building

No charge for this meeting.

### Topic:

**“An Ignored Michigan Resource - Geologic Storage of Carbon Dioxide”**

**L. W. (Lee) Smith, Optimal Value Energy, LLC**

Executive Meeting starting at 4:30 PM at Claddagh Irish Pub, Lansing

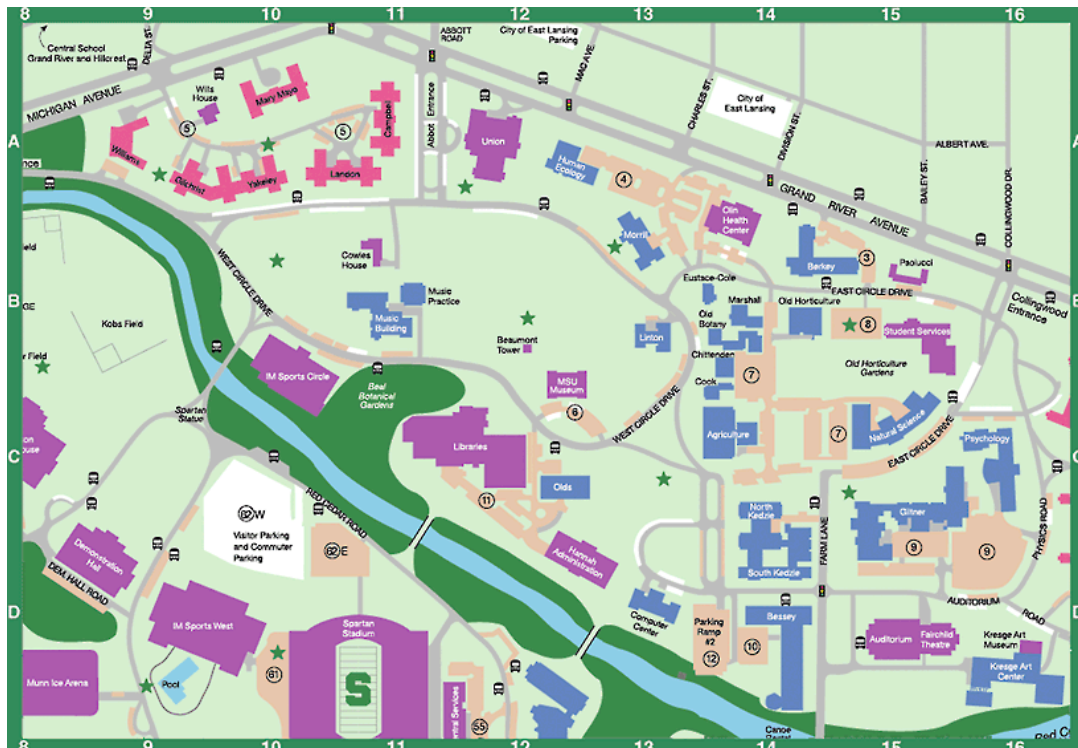
Please contact Thomas Godbold by if you have any questions.

Thomas Godbold

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Between 5pm & 6pm you can park in Lot 9 behind Giltner Hall and the Psychology Building (former Physics and Astronomy building) for free. Otherwise you can try your luck with the metered slots clustered around the Natural Science Building and the adjacent Student Services Bldg, no charge after 6:00pm.



# **“An Ignored Michigan Resource - Geologic Storage of Carbon Dioxide”**

**L. W. (Lee) Smith, Optimal Value Energy, LLC**

## **Abstract**

A debate is currently raging as to whether new coal-fired electrical generation should be built in Michigan. A major concern is that these new coal plants will add millions of tons of CO<sub>2</sub> to the atmosphere. This discussion needs to be reframed to incorporate the capability to store CO<sub>2</sub> in the rocks of the Michigan Basin.

Michigan has produced over 1.3 billion barrels of oil and several trillion cubic feet of natural gas from the sedimentary rocks in the Michigan Basin; these conventional hydrocarbon reservoirs are ample proof that the seismically inactive Michigan Basin reservoirs could contain a buoyant fluid like CO<sub>2</sub>. Besides the known conventional hydrocarbon reservoirs where hydrocarbons have remained stored for millions of years, the Michigan Basin contains a layer of black shale, the Devonian Antrim Formation, that holds methane and CO<sub>2</sub> in place by adsorption (the same attribute that holds coal bed methane in place). Finally, extensive oil and gas drilling has demonstrated that in addition to hydrocarbon reservoirs, the Michigan basin has large volumes of saline sedimentary reservoirs that could be used as storage locations for CO<sub>2</sub>.

Although important demonstration work, primarily by a team of geologists from Western Michigan University, has been accomplished to demonstrate the potential of the Michigan Basin to store CO<sub>2</sub>, much remains to be done. The steps necessary to have sites in Michigan ready to accept large volumes of CO<sub>2</sub> are, at a minimum: detailed reservoir studies, a broader and accelerated program of comprehensive field tests, and the development of legal and regulatory provisions for CO<sub>2</sub> storage.

## **Biography: L. W. (Lee) Smith**

L. W. (Lee) Smith has worked as the President of Optimal Value Energy LLC since October of 2004. Optimal Value Energy serves utility and industrial clients by providing carbon dioxide mitigation plans, designing energy purchasing and sales strategies, developing effective hedging strategies, and giving support for expert testimony in regulatory and legal proceedings.

From 1998 to October of 2004, Mr. Smith was employed as part of the management team of the Midland Cogeneration Venture Limited Partnership (MCV). The MCV is one of the largest gas fired cogeneration facilities in the world with a capacity of 1500 MW and over 1 million pounds of process steam per hour. Hired in 1988 as the Vice President of Gas Supply, Smith's primary responsibility at MCV was arranging for the gas storage, transportation, supply and price hedging for the MCV. After the start of commercial operation of MCV in 1990, he assumed the responsibility for short term sales of electricity. His title was changed to Vice President of Energy Supply and Marketing in 1996.

Prior to joining MCV in 1988, he spent 20 years in the oil and gas exploration and production business, first as a petroleum geologist and later in a series of management positions. He holds Bachelor of Science and Master of Science degrees in geology from Michigan State University and has completed business training at the University of Pennsylvania, the University of Chicago, and Tulane University. His professional activities include speeches to numerous industry groups and testimony before the National Energy Board of Canada, the Federal Energy Regulatory Commission in the United States, and the Michigan Public Service Commission. He is a Certified Professional Geologist, Certified Petroleum Geologist, and is a member of the Society of Petroleum Engineers, American Institute of Professional Geologists, the American Association of Petroleum Geologists, and the Michigan Basin Geologic Society.

## **Other Events and Happenings**

February 12, 2009, Ohio Geological Society monthly meeting, “Historical Development of Fuel and Non-fuel Mineral Commodities in Ohio”, by Larry Wickstrom, Ohio Geological Survey, Ramada Plaza Hotel, Columbus Ohio, RSVP to Steve Zoday at [zodyoil@sssnet.com](mailto:zodyoil@sssnet.com) or 330-262-4323.

March 5, 2009, AIPG Michigan Section Meeting, “Answers to Frequently Asked Questions and Concerns Related to MDEQ Remediation and Redevelopment Division’s Program Redesign Proposal”, by Lynelle Marolf and Patty Brandt, Michigan Department of Environmental Quality, Tony M’s Banquet, Lansing, Michigan, RSVP Dawn Prell at [dprell@nthconsultants.com](mailto:dprell@nthconsultants.com)

April 14, 2009, AIPG Section Meeting and Vendor Night to be held at Weber’s Inn, Ann Arbor

May 12<sup>th</sup>, 2009, AIPG Michigan Section 5<sup>th</sup> Annual Golf Outing, 18-hole Scramble, contact either Kevin Lund at [klund@g-eri.com](mailto:klund@g-eri.com) or at Bob Reichenbach [robert\\_reichenbach@sbcglobal.net](mailto:robert_reichenbach@sbcglobal.net)

