



# ON THE ROCKS



## A Newsletter of the Michigan Basin Geological Society

2009-2010 Number 9

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

May 2010

### EVENTS

**Wednesday, May 12th, 2010:** MBGS's May meeting will be held at Michigan State University, Natural Science building at 7:00 pm, room 204. The speaker is Murray M. Matson from West Bay Exploration Co., presenting "Reservoir Definition of the Northern Portion of Albion Scipio Field, Michigan." Location information is included in the newsletter.

### NOTES FROM THE EDITOR

- This will be the last newsletter for this year. Have a great summer and we will talk to you in September!!
- The Michigan Basin Geological Society (MBGS) is seeking potential officers to serve on the executive committee for the 2010-2011 business year. The executive committee meets prior to membership meetings and once during the summer. Membership meetings are held every month September through May. The following positions are currently open: Vice President, Secretary, and Business Manager

Please consider getting involved and supporting MBGS. It's a great venue to collaborate with other professionals working in the field of geology. For additional information, please contact any of the current officers listed in the newsletter.

- Call for Papers for the 2010 AAPG Eastern Section Meeting in Kalamazoo, Michigan, September 26 – 28, 2010. Deadline extended to May 15<sup>th</sup>. Information included in newsletter.
- MBGS and the Michigan Geological Repository for Research and Education (MGRRE) are co-sponsoring the 2010 AAPG Eastern Section Meeting in Kalamazoo, Michigan, September 26 – 28, 2010. Many great field trips are being planned as part of the meeting; details for the trips are included in this newsletter. <http://aapgesmeeting2010.mbgs.org/>
- The Michigan Section of the Society of Petroleum Engineers (SPE) is once again offering a scholarship amounting to \$1,000 to a Michigan college student (or incoming college student) who is interested in the petroleum and natural gas science or industry. This applies to any students aiming for Bachelor of Science undergraduate degrees in the desired fields of interest for the 2010-11 scholastic year and who are U.S. citizens and residents of Michigan or attending a 4-year institution in Michigan at the time of application. We will be accepting applications until July 1, 2010 and the scholarship will be awarded by August 1. Applications and more information are posted on the website: <http://michigan.spe.org/>

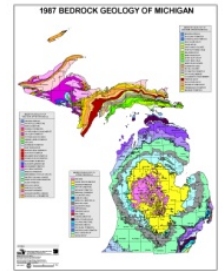
## **FIELD TRIPS**

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## **FIELD**

Presented by Michigan Basin Geological Society



**TITLE:** Pennsylvanian Stratigraphy of Grand Ledge, Michigan

**WHERE:** Grand Ledge, Michigan

**WHEN:** Sunday, September 26, 2010 as part of the Eastern Section AAPG Annual Meeting

**COST:** To Be Determined.

**LIMIT:** 25 Participants. AAPG ES meeting registration is required.

This field excursion, a familiar outcrop for most Michigan basin-trained geologists, will allow participants the opportunity to view and discuss one of the only extensive natural exposures of Pennsylvanian Strata in Michigan. The trip will also include a brief core workshop (at the Fitzgerald Park outcrop site) using samples collected near Mason, MI, a site of surface-derived DNAPL contamination in these shallow bedrock aquifer strata. These Upper Paleozoic strata are also the youngest exposed pre-Pleistocene rocks in the Michigan Basin and are important bedrock aquifers in the Tri-county area of central Lower Michigan. New stratigraphic findings from shallow subsurface cores provide additional insights concerning stratigraphic relationships in this important upper-most portion of the Paleozoic succession in Michigan. Dr. Dave Barnes (WMU) and students are actively studying the sedimentology and stratigraphy of these important bedrock aquifer units and will lead the trip. Environmental geoscientists and hydrogeologists are especially encouraged to participate.

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Presented by Michigan Basin Geological Society

**TITLE:** The F3 Salt of the Michigan Basin, Detroit Salt Company, Detroit, Michigan

**WHERE:** Detroit, Michigan

**WHEN:** Saturday, September 25, 2010 as part of the Eastern Section AAPG Annual Meeting

**COST:** To Be Determined.

**LIMIT:** 40 Participants. AAPG ES meeting registration is required.

This field excursion will allow participants a rare and unique opportunity to witness and discuss the F3 Bed in the Salina formation from the Late Silurian Period at a depth of approximately 1,160 feet below the metropolitan area Detroit. The Detroit Salt Company mine has mined rock salt since 1906 making it one of the oldest underground room-and-pillar mines in the United States still in production boasting over 100 miles of roads. The mine tour will be lead by E.Z. Manos, Mine Manager and Vice President of the Detroit Salt Company.

Presented by Michigan Basin Geological Society

**TITLE:** The Kentland Impact Structure, Indiana

**WHERE:** Kentland, IN

**WHEN:** Friday, September 24, 2010 as part of the Eastern Section AAPG Annual Meeting

**AGE LIMIT:** 18

**COST:** To Be Determined.

**DRESS:** Sturdy boots, comfortable field clothes, hat, sun glasses, sun block & raingear just in case.

**EQUIPMENT:** Sample bag with rock hammer optional. There should be plenty of shatter cones lying around for the picking.

**LIMIT:** 40 Participants. AAPG ES meeting registration is required.

This field excursion will allow participants the opportunity to examine the central uplift of a ~7km diameter impact structure with stratigraphy of 600m of vertical displacement from that surrounding the crater. Also, in addition to the ubiquitous shatter cones polymict breccia dikes, brittle quartz microstructures, and quartz planar deformation features are contained within the quarry. The mine tour will be lead by John C. Weber, Ph.D, Associate Professor of Geology at Grand Valley State University.



## UPCOMING EVENTS

- **May 5-6<sup>th</sup>, 2010** – AIPG Marcellus Shale Hydraulic Fracturing Conference, Pittsburgh Pennsylvania, more info at: <http://mi.aipg.org/calendar.htm>
- **May 11th, 2010 – Annual AIPG Golf Outing**, Lyon Oaks Golf Course, Wixom, Michigan, details are available at <http://mi.aipg.org/Golf/golf.htm>
- **May 27th, 2010 – AIPG Section Meeting**, Overview of Part 201 Operation Memorandum 4 Attachment 3: Sediments” by John Barkach, CPG, CHMM from Great Lakes Environmental Center, Location: Weber’s Inn, Ann Arbor. details are available at <http://mi.aipg.org/newsletters/2010%20April%20MI%20Newsletter.pdf>
- **September 11-15th, 2010 – 47<sup>th</sup> Annual AIPG National Meeting**, Orlando, Florida, details are available at [www.aipg.org](http://www.aipg.org)
- **September 26-28, 2010: AAPG Eastern Section Meeting**, sponsored by the Michigan Basin Geological Society and the Michigan Geological Repository for Research and Education.  
Contact Robb Gillespie for information via email at [robb.gillespie@wmich.edu](mailto:robb.gillespie@wmich.edu)

## **2009-2010 MBGS Officers**

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

### **PRESIDENT**

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# MBGS PUBLICATIONS

<http://www.mbgs.org/publications.html>

Prices include 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

## **Historical CD #1: Nine out-of-print publications from 1949 through 1965 and 1998, 2000, \$15**

- The Stratigraphy of Manitoulin Island, Ontario, Canada, June 19-20, 1954
- The Devonian and Silurian Rocks of Parts of Ontario, Canada and Western New York, June 22-23, 1951
- The Traverse Group of the Northern Part of the Southern Peninsula of Michigan, June 16-17, 1949
- Geology of Central Ontario, Canada, 1965
- The Devonian Strata of the London-Sarnia Area, Southwestern Ontario, Compiled by Erwin C. Stumm, Lewis B. Kellum and Jean Davies Wright, June 9-10, 1956
- The Ordovician Rocks of the Escanaba-Stonington Area, Led by R. C. Hussey , June 2-3, 1950
- The Niagara Escarpment of Peninsular Ontario, Canada, June 18-19, 1955
- Lower Paleozoic and Pleistocene Stratigraphy Across Central Wisconsin, Compiled by C. E. Prouty, Led by L. M. Cline, J. L. Hough and R. F. Black, 1960
- Classic Silurian Reefs of the Chicago Area, by Donald G. Mikulic and Joanne Kluessendorf , June 27, 1998

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

- Copper Country Field Trip, Michigan, June 20-22, 1947
- Geology of Mackinac Island and Lower and Middle Devonian, South of the Straits of Mackinac, June 12-14, 1959
- Tectonics, Structure and Karst in Northern Lower Michigan, August 1983
- Geology of the Pictured Rocks, Upper Peninsula, Michigan, July 11-13, 1991

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

- Pleistocene and Early Paleozoic of the Eastern Part of the Northern Peninsula of Michigan, June 18-21, 1948
- Stratigraphy and Structure of the Devonian Rocks in Southeastern MI and Northwestern OH, June 20-21, 1952
- Lower Ordovician and Upper Cambrian of Wisconsin , May 10-12, 1990
- Guidebook to the Precambrian Geology and Metallogeny of the Central Upper Peninsula of Michigan September 12-13, 1991

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

- Silurian Rocks of the Northern Peninsula of Michigan , 1957
- Cambrian Geology of Parts of Dickinson and Iron Counties, Michigan, June 1958
- Geologic Features of Parts of Houghton, Keweenaw, Baraga and Ontonagon Counties, Michigan, May 19-21, 1961
- Correlation Problems of the Cambrian and Ordovician Outcrops Areas, Northern Peninsula of Michigan 1967

- The Geology of Manitoulin Island, June 1968
- Devonian Strata of Alpena and Presque Isle Counties, Michigan, 1970

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

- Oil & Gas Fields Symposium, Volume 1, April 1969, 200 pp., maps, illus., second printing with updates
- Oil & Gas Fields Manual of the Michigan Basin, Volume 2, 1992, 520 pp., maps, illus.
- Glacial Geology of Southwestern Michigan, 1989, 53 pp. by A. Kehew, L. J. Schmaltz, and W. T. Straw
- Geology of the Lake Erie Islands and Adjacent Shores, 1971, 65pp., maps, illus. by Jane L. Forsyth
- Glacial Geology of Southwestern Michigan, Landforms of the Lake Michigan Lobe, Southwestern Michigan, 2001
- AAPG Eastern Section Meeting Field Trip, 32 pp., maps, illus. by A. Kehew and A. Kozlowski

**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.**

- Guidebook for Ontario Geological Excursion to Kettle Point –Owen Sound – Waubaushene, June 21, 22, 23, 1946 by W. A. Roliff, C. S. Evans and J. F. Caley
- Guidebook for Ordovician Stratigraphy of the Cincinnati, Ohio and Richmond, Indiana Areas, June 12, 13, 1953 by W. H. Shideler and B. T. Sandefur
- Guidebook for the Stratigraphy of the Silurian Rocks in Western Ohio, May 31-June 2, 1963 by C. H. Summerson, Jane L. Forsyth, Karl V. Hoover and J. R. Ulteig
- Guidebook for Cambrian Stratigraphy in Western Wisconsin, May 21, 22, 1966 by Merideth E. Ostrom
- Geology of the Manitoulin Area, Special Papers #3, September 29, 30 and October 1, 1978 by J. T. Sanford and R. E. Mosher
- Middle Devonian Cratonic Carbonates and Shales in Southwestern Ontario, November 14, 1987 by Bruce Wilkinson
- The Richfield Challenge, A Review of the Richfield Developments in Michigan, 1952 by Gordon H. Hautan
- A Theory of Rogers City and Dundee Relationships in Central Michigan, Masters Thesis, 1947 by Tom Knapp

**OTHER SPECIAL OFFERS**

- **Historical CD Set - # 1 – 6 (detailed above) for a special purchase price of \$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 for publications and special offers 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, May 12, 2010

### “Reservoir Definition of the Northern Portion of Albion Scipio Field, Michigan” By: Murray M. Matson, West Bay Exploration Co.,

Location: MSU, Natural Science Building  
The talk will begin at 7:00 PM in room 204.

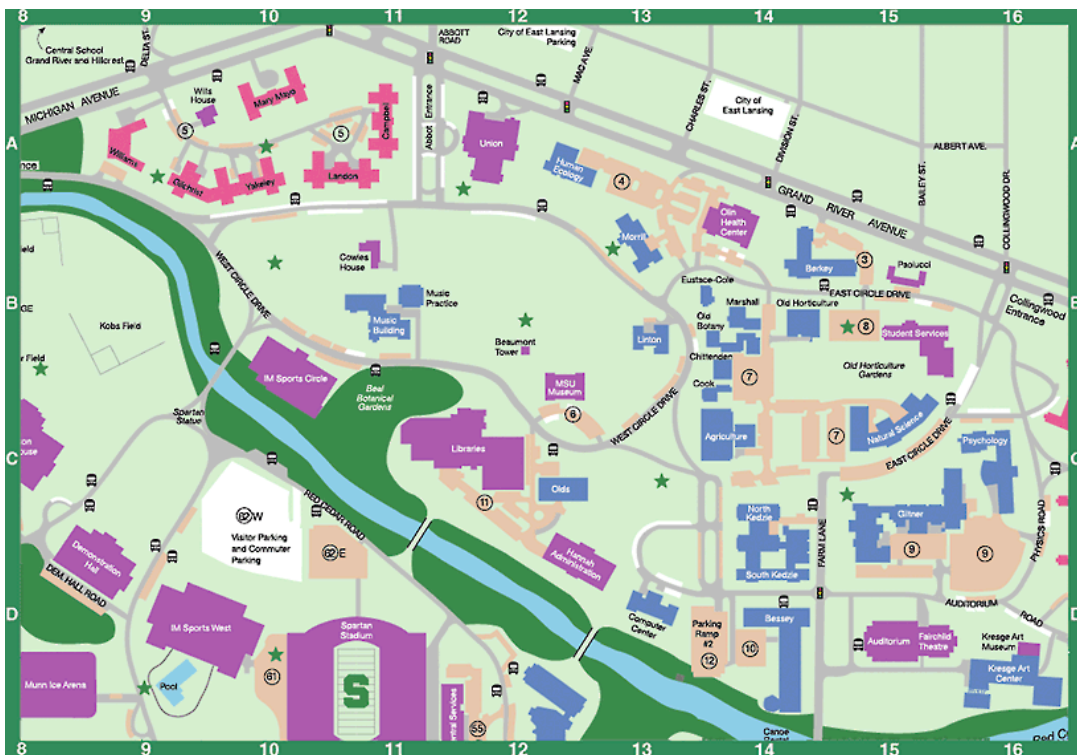
Refreshments will be provided after the talk in the Natural Science Building

No charge for this meeting.  
Executive Committee Meeting will be held at 4:30 PM at  
Claddaugh’s Irish Pub in Lansing (members welcome)

#### Please RSVP for this meeting to:

Thomas Godbold  
Bus Ph: 517-241-1545, Fax 517-241-1595  
E-mail:godboldt@michigan.gov

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.



**ABSTRACT:****Murray M. Matson**

West Bay Exploration Co., Senior Geologist, Traverse City, Mi 49684

murray@wbeco.net

Recent drilling and evaluation of the Trenton- Black River Formation at the north end of the Albion Scipio Field in Michigan has resulted in a 90% completion success. The drilling of over 30 well in the past two years and a detailed study of older wells in the Albion Scipio Field has defined an exploration model which explains reservoir characteristics such as shape, compartmentalization, and fluid flow. Strike slip faulting which produces a “Y” shaped reverse flower structure is key to reservoir development. Hydrothermal waters moving up from the basement through the fractures created by the strike slip faults dolomitize the regional Trenton-Black River limestone resulting in narrow linear reservoirs. The dynamics of the longer continuous underlying strike slip faulting migrating upward into a “Y” shaped narrow graben is fundamental in the formation of isolated compartments in the overlying Trenton Formation.

Albion Scipio Field has a dip of over 1000 feet from the north end of the reservoir in Lee Township, Calhoun County to the southern end in Adams Township, Hillsdale County. The twenty mile long portion of the field known as Albion Field is separated from the Scipio Field by the “Pulaski Break”. A study of Albion Field and information from recent drilling has defined a continuous reservoir in the Black River from the “Pulaski Break” to the southwest corner of Lee Township to the north. Due to regional dip only the southern updip portion of the Black River reservoir is oil filled, the rest being water filled. Strike slip fault mechanics and hydrothermal water flow has isolated the upper carbonate reservoir of the Trenton. The Trenton therefore overcomes regional dip and is oil productive. Production of oil in the Trenton is complicated by the highly vertically fractured, water filled Black River below. This has led to a variety of completion technique designed to minimize water coning. Those techniques include open hole completions, horizontal drilling, and dual water/oil tubing strings.

**Short Bio:** Murray Matson graduated from DePauw University in 1978. He has worked for Hunt Energy from 1980-82, Dart Oil And Gas from 1983-91 and West Bay Exploration 1991 to present. He is a member of AAPG and MBGS.

# CALL FOR PAPERS

Abstract Deadline (Extended): May 15, 2010



**Eastern Section  
American Association of Petroleum Geologists  
2010 Annual Meeting  
“Perseverance – the Pipeline to Prosperity”  
September 25-29, 2010  
Kalamazoo, Michigan**

You are invited to submit an abstract for oral or poster presentation at the 2010 Eastern Section AAPG Annual Meeting. All papers of interest to the Eastern Section, the Division of Environmental Geosciences, Energy Minerals Division, and Division of Professional Affairs will be considered for presentation. The technical program is expected to comprise two or three concurrent oral sessions and one poster session each day.

#### PROPOSED THEME SESSIONS

- CO<sub>2</sub> Sequestration and CO<sub>2</sub> EOR
- Reservoir Characterization of carbonates and siliciclastics
- New Plays in the Eastern Section
- New Exploration Trends for Mature Basins
- Gas Storage
- Trenton/Black River Exploration and Development
- Gas Shales and other Unconventional Reservoirs
- Quantitative Applications and Reservoir Modeling
- Geologic Issues of Alternative and Renewable Energy
- Responsible Development of Energy Resources in an environment of Climate Change
- Digital Data Applications and Mapping
- GIS and computer applications and handling data

## **INFORMATION FOR PRESENTERS**

Authors are invited to submit new work for either oral or poster sessions, as outlined below. Abstracts are due **APRIL 30, 2010**. Oral presentations will be 25 minutes with a 5-minute question period. Authors of accepted papers will be contacted with details on their presentations (timing, venue, etc.). The only mode of presentation will be PowerPoint. Poster sessions will run a full day. Poster authors are expected to be in their booths a minimum of 2 hours. Authors will be provided TWO 4 ft by 8 ft boards suitable for Velcro attachment of posters.

Abstracts should be submitted electronically, via email, following the instructions below. Also submit the "Abstract Submittal Form" (see the meeting Web site) and state whether you prefer an oral or poster presentation or whether either is acceptable. Over-subscription may mean that some papers will be moved from poster to oral, or vice versa, but only with author(s) approval. Titles should be as brief as possible, while still conveying the main topic. **Please do not submit an abstract unless at least one author is certain to attend the meeting. All speakers are required to register for the meeting.**

### **ABSTRACT FORMAT AND INSTRUCTIONS**

Please submit your abstract in MSWord as Rich Text Format (.rtf) using Arial 12 point. Your abstract will appear in the proceedings exactly as submitted, so please carefully proofread.

- 1. TITLE** List the title of the abstract first. Titles should be **bold** upper- and lower-case text, aligned with the left margin, beginning on the first line.
- 2. AUTHORS** Skip one line after the title; type the senior author's name first, followed by additional authors. If the senior author is not presenting the paper, make the presenter's name **bold**.
- 3. AUTHORS' AFFILIATION** Immediately below the authors, type (in upper and lower case) the author's affiliation, city, state/province, zip/postal code, and e-mail. Indicate multiple authors' affiliations with superscripted consecutive numbers keyed to the authors in the authors' line.
- 4. ABSTRACT** Skip a line and indent 5 spaces, then begin the body of your abstract. Abstracts are limited to **250** words. Use the full width of the page; indent each paragraph, but do NOT skip a line between paragraphs; lines must be single-spaced, right-left justified; no illustrations, references, or abbreviations. No corrections will be made, so PLEASE PROOFREAD.

#### **Abstract Example**

Sedimentary Reservoirs and Stratigraphic Traps

Henry C. Sorby<sup>1</sup>, **Charles Lyell**<sup>2</sup>, and Johannes Walther<sup>3</sup>

<sup>1</sup>University of Miami, Comparative Sedimentology Laboratory, Miami, FL 45678, sorby@xyz.edu

<sup>2</sup>Texaco Exploration and Development, Anywhere, TX 77666, lyell@lmn.com

<sup>3</sup>Michigan University, Department of Geology, Your Town, MI 46789, walther@abc.edu

**Study of modern depositional environments has formed a cornerstone of facies analysis . . .**

You must submit the abstract via e-mail. Use the following file name format (all lower case)—corresponding author's last name, corresponding author's first name, abstract number (use 1 for the first abstract submitted by the author, 2 for the second abstract submitted by the same author, and so on; for example: harris\_david\_1.rtf). E-mail both your abstract and your completed ABSTRACT SUBMITTAL FORM (see the 2010 Eastern Section AAPG Web site) as e-mail attachments, with the subject designation "2010 Abstract," to:

**G. Michael Grammer, Technical Program Chair**  
e-mail: [michael.grammer@wmich.edu](mailto:michael.grammer@wmich.edu)  
Phone: (269) 387-8679

**AAPG—Eastern Section 2010 Abstract Form and Application**

Title of Paper:

NOTE: The content of the abstract is your responsibility. Please check it carefully.

Speaker's Name (last name first):

Affiliation (employer):

Office Phone:

Office Fax:

Address:

City, State, ZIP code

Home Phone:

Email address:

Type of Paper to be presented: ( ) Oral, ( ) Poster, ( ) Either

Are you a student? Y( ) or N( )

Please indicate preferred session:

If your paper does not fit a proposed topic, indicate your topic with 2 or

3 key words:

Is this an invited paper? Invited by whom?

Has this or a similar paper been presented before?

Where?

When?

How does this paper differ from previous ones?

**DEADLINE: April 30, 2010**

***E-mail your Abstract Form and Abstract as attachments to:***

**G. Michael Grammer, Technical Program Chair**  
e-mail: [michael.grammer@wmich.edu](mailto:michael.grammer@wmich.edu)

**Any Questions? Please Phone: (269) 387-8679**