



On the Rocks

A Newsletter of the Michigan Basin Geological Society

2011-2012 Number 2

www.mbgs.org

October 2011

EVENTS

MBGS Membership Meeting, October 12, 2011: The October meeting will be held at Michigan State University, Natural Science building at 7:00 pm in room 204. The speaker is an AAPG distinguished lecturer, Mr. Joe Macquaker (Department of Earth Sciences, Memorial University of Newfoundland St. John's, Canada) presenting, "Are shales really that dull? Shining light into dark places and the effects of opening Pandora's Box." Refer to location information in the newsletter.

Notes from the editor:

- MBGS will award two or more scholarships of up to \$1000 to students conducting research in geology related to the Michigan Basin. Candidates should complete and submit the Michigan Basin Geological Society scholarship application form. If you have questions or need applications forms, please call or email Tom Hoane at 517-241-3769 or hoanet@michigan.gov.
- It's that time of year again....the Michigan Basin Geological Society dues are due. Please take a moment to update your information and mail in your 2011-2012 dues. A form is provided in the newsletter. Thanks!!
- MBGS has rock kits available for members. These kits are great for use at children's festival/demonstrations and talks. First come, first serve. Contact Tom Hoane @ hoanet@michigan.gov.
- The Central Michigan's 46th Annual Gem, Mineral, Fossil, Lapidary & Jewelry Show is being held on October 21, 22, and 23, 2011 at the "Main Arena" Ingham County Fairgrounds in Mason, Michigan. A flyer for the show is included in the newsletter; please feel free to distribute.
- 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 to reserve this great educational tool.





MBGS Meeting

Wednesday, October 12, 2011

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:

“Are shales really that dull? Shining light into dark places and the effects of opening Pandora's Box.”

Mr. Joe Macquaker, AAPG Distinguished Lecturer

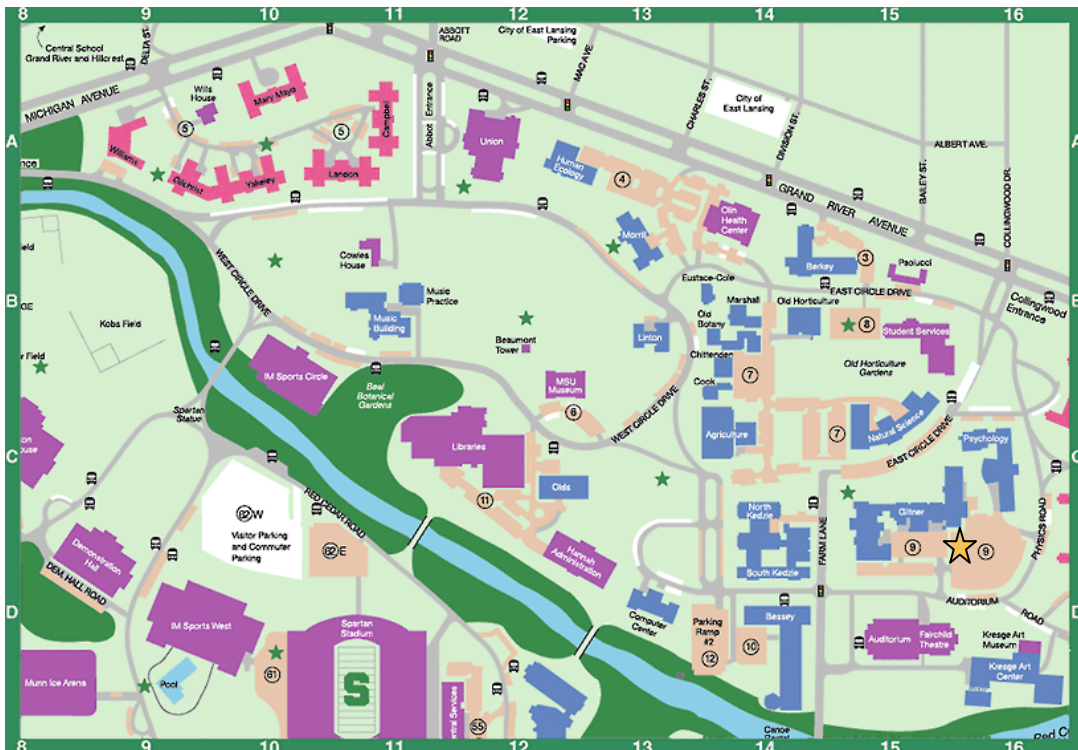
**Department of Earth Sciences, Memorial University of Newfoundland
St. John's, Canada**

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

Please contact Thomas Godbold by if you have any questions

Thomas Godbold E-mail: tgodbold07@gmail.com.

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.



ABSTRACT: Are shales really that dull? Shining light into dark places and the effects of opening Pandora's Box.

Fine-grained sedimentary rocks are currently the subjects of great deal of research. In spite being very common they are poorly known, relative to other sedimentary rock types. Most geologists consider them to be the product of deposition in low energy environments, and if they are source rocks, below anoxic bottom waters. Recent petrographic studies of marine mudstones have shown that they are typically organized into very thin, sharp based beds and commonly contain a wide variety of micro-sedimentary structures including: gutter casts, compacted ripples, triplet fabrics, organo-minerallic aggregates, aggregate grains and diminutive burrows. The presence of these fabrics forces a radical reappraisal of the conditions under which they were deposited and the processes responsible for organic carbon enrichment of the sediment.

Using micro textural data derived from classic fine-grained successions e.g. Kimmeridge Clay Formation, Mancos Shale, Whitby Mudstone Formation and Marcellus Shale, the sedimentological processes responsible for mudstone deposition in these units will be reviewed. The presence of a wide diversity of microfibrils suggest that prior to being sedimented the components of the mudstones were: a) delivered to the seafloor as organo-minerallic aggregates and b) then dispersed both in bedload and as fluid mud by processes such as wave enhanced sediment gravity flows and geostrophic flows, prior to c) being burrowed by diminutive organisms that were living close to the sediment water interface. These data suggest that mudstones, and source rocks in particular, were deposited in much more dynamic conditions than most researchers have assumed, and that the deep water, predominantly low energy, anoxic model that is typically the default setting for interpreting their origin needs to be revisited. They also demonstrate that these rocks contain a great deal of useful, but largely unrecognized stratigraphic information, and that they reward careful study.

BIOGRAPHY: Joe H.S. Macquaker

Department of Earth Sciences, Memorial University of Newfoundland
St. John's, Canada

Joe H.S. Macquaker is presently an Associate Professor in Petroleum Geology at the Department of Earth Sciences, Memorial University of Newfoundland (St. John's, Canada). Previous to that, he was a Faculty Member at the University of Manchester. Prior to becoming an academic he was a Post-Doctoral Researcher at the Universities of Manchester and Sheffield. He received both a PhD and Honours degrees from the University of Bristol.



His main research interest has been focused on investigating the fundamental causes of the variability preserved within fine-grained sedimentary rocks. He has more than 45 papers published in international peer-reviewed journals in this research area. Joe is currently a member of the SEPM Research Council. He has been an Associate Editor for the *Journal of Sedimentary Research* since 1989 and was an Editor for the *Journal of the Geological Society of London* from 2000 to 2004.



UPCOMING EVENTS

October 9-12, 2011: Geological Society of America Annual Meeting & Exposition, Minneapolis, Minnesota, <http://www.geosociety.org/meetings/2011>

October 10, 2011 – UTICA 2011 takes an objective look at the Uticas Shale Play, Hilton Columbus at Easton, Columbus Ohio, www.TheEnergyForum.com

November 3, 2011 – Ohio Geological Survey Meeting, Development of the Shale Plays and Disposal of the Oilfield Wastes in Ohio By Tom Tomastik ODNR Division of Mineral Resources Management, Worthington Ohio, www.ohgeosoc.org

November 7, 2011 – SPE/MBGS Joint Membership Meeting, Practical Approach to Solving Wellbore Instability Problems by Samuel Osisanya, Christie's Bistro located in the Lexington Lansing Hotel <http://michigan.spe.org/>

December 1st, 2011, MI-AIPG Meeting, Webbers' Inn, Ann Arbor, MI, <http://mi.aipg.org/>



MBGS September 2011 Field Trip Group stops for a photo at the last stop, Jacobsville Sandstone, at Presque Isle, Marquette

2011-2012 MBSG Officers

The Executive Committee meeting minutes are available on our website at

www.mbsg.org

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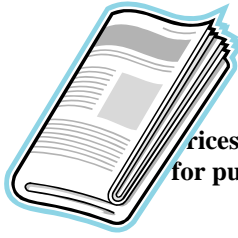
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Orders for publications should be prepaid in U.S. Funds and addressed to:

MBGS — Publications
P.O. Box 14044
Lansing, MI 48901-4044

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
- 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
- Geology of Central Ontario, Canada, 1965

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 Ordovician Stratigraphy of the Cincinnati, Ohio and Richmond, Indiana Areas, June 12, 13, 1953 by W. H. Shideler and B. T. Sandefur
- 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 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

(NEW) Historical CD #7: Six out-of-print

Field Guidebooks from 1962, 1969, 1977, 1980, 1985 & 1988, \$15

- Silurian Rocks of the Southern Lake Michigan Area, 1962, James H. Fisher, Chairman, MBGS Annual Field Conference
- Studies of the Precambrian of the Michigan Basin, by Harold B. Stonehouse, 1969
- The Geology of the Marquette District: a Field Guide By F. W. Cambray, 1977
- Ordovician and Silurian Geology of the N. Peninsula of Michigan, 1980, R.B. Votaw, 40 pp., illus., maps
- Special Paper #4: Ordovician and Silurian Rocks of the Michigan Basin and its Margins, 1985 K.R. Cercone and J.M. Budai (eds.), 96 pp., illus.
- Upper Keweenaw Rift-Fill Sequence, Mid-Continent Rift System, Michigan, 1988, P.A. Daniels and R.D. Elmore, M.S. Wollensak, ed., 150 pp., illus., maps

OTHER SPECIAL OFFERS

- **Historical CD Set - # 1 – 7 (detailed above) for a special purchase price of \$95**
- **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
- **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.

Michigan Basin Geological Society Dues Notice

Please fill out this form when paying your dues for 2011-2012. Dues are \$25.00 for active member and \$10.00 for students.

Name _____

Address _____

Phone _____

E-Mail _____

Amount enclosed _____

Send Newsletter by e-mail _____ or Mail _____ @ address above

Make check payable to: MBGS

Send to: Tom Hoane
1748 Danby Lane SE
Grand Rapids, MI 49506

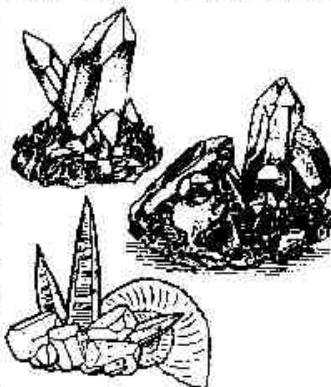
Central Michigan's 46th Annual Gem, Mineral, Fossil Lapidary & Jewelry Show

Friday, October 21, 2011 • 6:00 to 9:00 p.m.
Saturday, October 22, 2011 • 10:00 a.m. to 7:00 p.m.
Sunday, October 23, 2011 • 11:00 a.m. to 5:00 p.m.

**"Main Arena" Ingham County Fairgrounds
700 E. Ash St. • Mason, MI**

DEALERS

- Archy's Rock Shop
- BJ'S
- D. Demerly's Rocks & Artworks
- S&S Gold & Diamond
- Janda Gems
- M & W Minerals
- Moorehead Enterprises
- Red Metal Mineral Co.
- Russell's Trees & Treasures
- The Mineral House
- The Stones & Bones Collection
- The Agate Lady



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fund scholarship
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FROM I-96 South on Okemos Rd.
To Mason, Left on Rogers St.
Left on Ash St.
FROM LANSING South on Cedar St.
To Mason, Left at 2nd Stoplight (Ash St.)
US-127 South to Kipp Rd. Exit,
Left (East) to South
Entrance to Fairgrounds



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Information: (517) 641-6125 • facetman60@yahoo.com michrocks.org

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GEOLOGY SCHOLARSHIPS AVAILABLE

The Michigan Basin Geological Society will award two or more scholarships of up to \$1000 to students conducting research in geology related to the Michigan Basin. The scholarships will be awarded in December. Candidates should complete and submit the Michigan Basin Geological Society scholarship application form. If you have any questions or need application forms please call or e-mail Tom Hoane at 517-241-3769 or hoanet@michigan.gov

Submit applications by November 1, 2011 to:

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