



The Newsletter of the Ohio Geological Society

December 2012

An Affiliate (1963) of the American Association of Petroleum Geologists (AAPG)

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The Ohio Geological Society 15th Annual Winter Gala

Friday, January 25th, 2013

NEW LOCATION

Holiday Inn Columbus-Worthington 7007 N. High St., Worthington, OH 43085

Sponsorships available!

STUDENT VOLUNTEERS NEEDED – FREE REGISTRATION

Please contact Amy Lang at <u>Amy.Lang@formanenergy.com</u> or (614) 717-9262.

The Ohio Geological Society 15th Annual Winter Gala

The Ohio Geological Society cordially invites all geologists, associates, and friends to a gala winter celebration!

Friday, January 25th, 2013

6:30 pm

NEW LOCATION

Holiday Inn Columbus-Worthington 7007 N. High St., Worthington, OH 43085

Cost: \$15 per person

Sponsorships - \$50

Dinner, drinks and music by Bill Foley!

Make your check payable to: Ohio Geological Society and mail to Alison Nutter, 1927 Tamarack Road, Newark, OH 43055

> Please RSVP by <u>January 22nd</u> to: Amy.Lang@formanenergy.com or (614) 717-9262.

Hotel room reservations should be made directly with the Holiday Inn Columbus-Worthington, (614) 436-0700. A block of rooms will be held until January 11th, 2013. The rate is \$79.00.



Thursday, February 21st

Lunch at 11:30, talk at 12:30 pm

SEQUENCE-AND EVENT-STRATIGRAPHY OF THE END-DEVONIAN CLEVELAND SHALE-THROUGH-BEREA SANDSTONE SUCCESSION IN NORTHERN OHIO: MASS EXTINCTION, CONVULSIVE TECTONICS, AND EMERGING QUESTIONS

By

Dr. Gordon C. Baird Department of Geosciences, S.U.N.Y. Fredonia

> Holiday Inn Columbus-Worthington 7007 N. High St., Worthington, OH 43085

Please RSVP for the lunch and/or meeting to Bill Arnholt at <u>barnholt@northwoodenergy.com</u> or 614-457-1024

SEQUENCE-AND EVENT-STRATIGRAPHY OF THE END-DEVONIAN CLEVELAND SHALE-THROUGH-BEREA SANDSTONE SUCCESSION IN NORTHERN OHIO: MASS EXTINCTION, CONVULSIVE TECTONICS, AND EMERGING QUESTIONS

BAIRD, Gordon C., Department of Geosciences, S.U.N.Y. Fredonia, Fredonia, New York, 14063; Gordon.baird@fredonia.edu

This presentation summarizes correlational mapping of end-Devonian (Late Famennian) strata, initiated in 2006 across northwest Pennsylvania by Baird, and extended into Ohio, beginning in 2009. This time interval is now known to record several major events that are part of a protracted interval of global ecological disruption, climatic shifts, and biotic extinctions, known as the *Hangenberg Biocrisis*, which began in the latest Devonian and continued into the earliest Mississippian. These disturbances commenced with an initial episode of mass extinction, recorded at the base of the globally distributed, organic-rich, Hangenberg black shale, which was succeeded by a subsequent "ice house" episode of sea level-drop and correlative glaciation events with accompanying major carbon and oxygen isotope excursions. These glacial pulses are not only widely reported on Gondwana, but have been recently documented in the Appalachian foreland basin succession as shown by the new work of Brezinski et al. (2010) and Lierman et al. (2012). Moreover, widespread evidence of large-scale, seismicity-related, soft-sediment disturbances, documented in the end-Devonian succession of Ohio, adds a further mystery to this time interval. A primary goal of this work is to establish a better stratigraphic framework for assessing the temporal relationship of key Ohio units (Cleveland Shale, Bedford Formation, Cussewago-Berea Sandstone interval) to these global events.

An upper, as yet undetermined, portion of the black Cleveland Shale, appears to be correlative with the global "Hangenberg black shale event as suggested by Kaiser et al. (2011); although the biozonal base of the Hangenberg interval has not yet been identified within the Cleveland interval, key miospores and ammonoids, correlative to this biocrisis, have been recovered from its topmost beds (Eames, 1974; House et al., 1986). Hence, the impressive placoderms, characteristic of certain Cleveland Shale horizons, may have been among the last representatives of this important group to be seen in the fossil record prior to their global disappearance at the Hangenberg level.

Isopach data, compiled by Pashin and Ettensohn (1995) and Hannibal et al. (2012) suggest that the Cleveland Shale accumulated in a gently curving, northeast-southwest-trending, oxygen-deficient basin setting across Ohio, though an unconformity at its top offers the probability that it may once have been present in parts of southeast Ohio. The lower half of the overlying, regressive, non-black, Bedford Formation records a constructional pulse of sediment progradation across northern Ohio; in the Cuyahoga Valley area, we observe the conspicuous northwestward downlap of a key regressive Bedford siltstone marker unit (Euclid Bluestone) toward the base-Bedford disconformity. From Big Creek, south of metropolitan Cleveland, westward into Lorain County, the highly condensed, base-Bedford-through-Euclid interval, below the thick, red Bedford succession, is expressed as a thin, highly condensed downlap succession in a deeper-water setting. The enigmatic, typically structurally deformed, upper (red) Bedford succession, below the major sub-Berea disconformity, has been interpreted as a terrestrial or parallic deposit by earlier workers (see "great red Bedford delta" of Pepper et al., 1954), and later as an offshore, lower prodelta slope environment as proposed by Lewis (1988) and Pashin and Ettensohn (1995).

The Berea Sandstone, now understood to be uppermost Devonian in age, is marked, in northern Ohio, by a regional lowstand disconformity with variable paleorelief. Moreover, Kaiser et al. (2011) correlated this unit to a major eustatic lowstand episode represented by the globally distributed "Hangenberg Sandstone". "Transitional" Bedford-Berea sections in reports appear to represent localized erosional juxtaposition of Berea on the Euclid Member.

Four regional unconformities are observed in northern Ohio; base-Cleveland Member-on-Chagrin Shale (sequence or subsequence contact), base-Bedford Formation-on-Cleveland Member (sequence boundary), base-Berea disconformity (sequence boundary or tectono-sequence boundary), and Berea Formation – base Mississippian contact (probable sequence boundary). We do agree with Pashin and Ettensohn (1995) that the Cussewago Sandstone-Berea interval is, overall, a destructive TST succession leading upward to gray shales below the Mississippian contact. A possibility exists that the "Bedford Formation" interval in south-central Ohio (Sunbury-Columbus-Lithopolis area) is not depositionally continuous, and that the sub-Berea-sub-Cussewago Sandstone disconformity may actually be present as a cryptic contact above the red Bedford interval in this area. This remains to be tested.

Goals of our ongoing investigations include: establishing a higher resolution stratigraphy within the Cleveland Shale interval for formal placement of the onset of Hangenberg biocrises and/or paleoclimatic icehouse conditions; arriving at a better paleoenvironmental assessment of the red Bedford interval, based on sedimentology and stratigraphic context; establishing a better regional characterization of the topmost stratigraphic extent of sedimentological/tectonic disturbances within the Berea as part of a search for impact ejecta or other potential causal agents for widespread Berea deformation, and achieving a better regional understanding of the stratigraphic relationship of Berea deposits to succeeding dark shale of the basal Mississippian succession.

ODNR Announces New Chief of the Division of Geological Survey

9/28/2012

COLUMBUS, OH – Ohio Department of Natural Resources (ODNR) Director James Zehringer today announced Thomas J. Serenko, Ph.D., as the new chief of ODNR's Division of Geological Survey.

A native Ohioan and graduate of Youngstown State University, Serenko's professional career includes international experience as a geologist in Chile, Tajikistan, Switzerland and Kazakhstan.

"Dr. Serenko's 25 years of experience as a private industry geologist, coupled with his exceptional academic background, will serve all Ohioans well as he begins his new role as the state geologist," said Zehringer.

Serenko earned his doctorate degree in geology from Imperial College, London, United Kingdom. He received his master's degree in geology from the Colorado School of Mines, Golden, Colo., and his bachelor's degree in geology from Youngstown State University. His writings have been published in several major industry journals, and he has also served as an adjunct professor at the University of Texas at Austin.

He most recently managed a mine in Nevada that produces 700,000 tons per year of limestone and 50,000 tons per year of clay. His duties included overseeing all permitting and environmental compliance, safety, mine development, mine design and exploration.

Serenko has also been employed as a mining and exploration manager at Southern Clay Products Inc., in Gonzales, Texas, and has conducted extensive coal surveys throughout Kentucky.

ODNR ensures a balance between wise use and protection of our natural resources for the benefit of all. Visit the ODNR website at ohiodnr.com.



ES-AAPG MEETING PHOTOS

Visit: lensphotography.smugmug.com

Click on the "ES-AAPG Meeting 2012" album

Password: geologistsrock

ODNR Releases Archived Oil and Gas Data Set

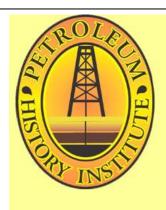
11/2/2012

COLUMBUS, **OH** – The Ohio Department of Natural Resources' (ODNR) Division of Geological Survey has released its entire archive of oil and gas data set, which is comprised of 126,000 geophysical logs for nearly 69,000 wells throughout the state. The logs are now available to the public as digital files.

These logs are a fundamental data set used by the industry for oil and gas exploration, by government agencies for environmental restoration and remediation and by academic institutions for research.

The digital logs are raster-formatted scanned images saved as TIF files and are available on DVD at a cost of \$2 per log, with a \$25 minimum order (plus tax and shipping). Ordering information and an index of all available digital logs can be found on ODNR's website at OhioGeology.com. For details about obtaining records, contact the division's Geologic Records Center at 614-265-6576.

ODNR ensures a balance between wise use and protection of our natural resources for the benefit of all. Visit the ODNR website at ohiodnr.com.



PETROLEUM HISTORY INSTITUTE

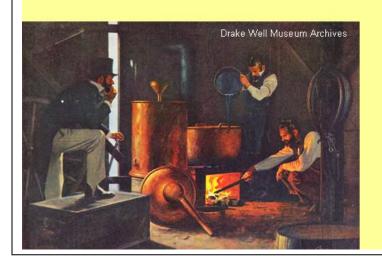
CALL FOR PAPERS PITTSBURGH, PENNSYLVANIA

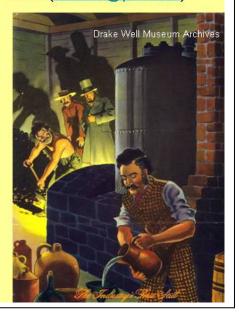
Birth place of U. S. Refining May 16-18, 2013



Please submit abstracts, oral and poster, to: William R. Brice (wbrice@pitt.edu)

DEADLINE: APRIL 1, 2013 www.petroleumhistory.org







William "Bill" Boston

DANVILLE: William "Bill" Boston, age 51, of Danville, passed away in his sleep, Thursday, December 21, 2012.

Bill had previously lived in Newark for 18 years and taught at Philo High School for 15 years. He graduated from North Canton Hoover High School and then received his BA in education and MA in Geology from Ohio University. He went on to Rutgers University

where he worked on his Doctorate in Geology.

He had worked for various oil companies in this area including NGO, where he was a field Geologist. Bill loved the outdoors and spent much of his time enjoying nature. His passion, like his fathers, was sharing his knowledge with students that passed through his classroom.

Bill is survived by his mother, Dolores Boston of North Canton; two sons, Kyle Bryan Boston of Danville and James Harold, a brother, Robert (Carol) Boston of Navarre, Florida; a nephew Zakaria and a niece Sierra both of Navarre, Florida.

His father Jack J. Boston preceded him in death in 2010.

A celebration of life service will be held on Saturday, December 29, 2012 at 3:00PM at St. Luke Community Center, 7 Rambo St., Danville, Ohio 43014. Family will receive friends following the service. The Dilley-Lasater Funeral Home in Mount Vernon is handling the services for the Boston family.

Memorial contributions may be made in Bill's name to: North American Envirothon, P.O. Box 855, League City, TX 77574

To send a condolence or share a memory with the Boston family, please visit www.dilleylasater.com



186 University Hall 230 North Oval Mall Columbus, OH 43210

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June 6, 2012

Ohio Geological Society PO Box 14304 Columbus, OH 43214-0304

Dear Friends of Ohio State:

On behalf of Ohio State's College of Arts and Sciences, I want to thank you for your recent gift in support of the Orton Museum Support Fund.

We are so grateful for the generous support of our alumni and friends to the Orton Geological Museum, particularly with the damage sustained last quarter due to vandalism. The museum is a valued treasure here at the university. Gifts like yours will help us make repairs to the exhibits, so it can continue to serve our faculty and students, who use its resources for their research, and the community through visits by school groups, scouts and other visitors.

In invite you to keep up with the latest news in the college. Please visit our web page at www.artsandsciences.osu.edu. I particularly commend the ASCENT semi-annual newsletter to you for the latest stories of student, faculty, and staff achievement.

I very much appreciate your commitment to Ohio State.

Best wishes,

Joseph E. Steinmetz, Ph.D.

Executive Dean and Vice Provost



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AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS FOUNDATION

July 23, 2012

Ms. Alison Nutter Ohio Geological Society P.O. Box 14304 Columbus, OH 43214

Dear Ms. Nutter,

Thank you so much for the recent gift of \$250 received on July 16, 2012 from Ohio Geological Society. This gift will go to the Ohio Geological Society Named Grant, in memory of Theodore A. Debrosse, as designated, and will provide much needed ongoing support.

Not only is Ohio Geological Society setting an excellent example for the next generation of geoscientist, but Ohio Geological Society is preparing the way for them to be able to succeed in the industry. You may not be aware that 100% of Ohio Geological Society's gift goes straight to the fund that is designated. Nothing is set aside for administrative costs, thanks to an endowment provided by the late L. Austin Weeks for the Foundation's operating Fund.

Sincerely,

Natalie Adams

Manager, AAPG Foundation

Thank you for your support of the AAPG Foundation.

Please retain this receipt for your tax records.

AAPG Foundation, a 501(c)(3) organization, provided no goods or services in exchange for this contribution.

A gift has been made to the American Association of Petroleum Geologists Foundation designated to the

Ohio Geological Society Named Grant

By: Lawrence Wickstrom 10008 Miller Rd. Johnstown, OH 43031

This gift supports our mission to support educational, charitable and scientific activities related to benefit the geologic profession and general public.

September 13, 2012

Ohio Geological Society,

Thank you for selecting me as
your scholarship recipient. It's
an honor to be the first anard
winner. I look forward to
furthering my education at
Marietta College.

- Zach Zody

Adjunct Faculty- Geological Sciences, Columbus State Community College.

The Biological and Physical Sciences department seeks qualified individuals to teach a range of Geology courses Spring semester, which begins 1/14/13. Qualifications include a Master's degree in Geology or related field. Interested candidates contact Dr.J.G. Richardson richard@cscc.edu.

Welcome New Members!

Mihir Shah Bowling Green State University – Bowling Green, OH

James Templin II Energy Corporation of America – Charleston, WV

Jared VanMeter Range Resources LLC – Canonsburg, PA





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CALENDAR

January OGS 15th Annual Winter Gala

25 Holiday Inn Columbus-Worthington – Worthington, OH

www.ohgeosoc.org

February OGS Meeting

21 SEQUENCE- AND EVENT-STRATIGRAPHY OF THE END-DEVONIAN

CLEVELAND SHALE-THROUGH-BEREA SANDSTONE SUCCESSION IN NORTHERN OHIO: MASS EXTINCTION, CONVULSIVE TECTONICS,

AND EMERGING QUESTIONS

Gordon Baird - Department of Geosciences, S.U.N.Y. Fredonia

Holiday Inn Columbus-Worthington – Worthington, OH

www.ohgeosoc.org

March OGS Meeting

6 Hilton Easton, Columbus, OH

www.ohgeosoc.org

March 2013 OOGA Winter Meeting

6-8 The Renaissance Cleveland Hotel – Cleveland, OH

www.ooga.org/

April OGS Meeting

18

May OGS Meeting

TBD

May AAPG 2013 Annual Convention & Exhibition

19-22 David L. Lawrence Convention Center – Pittsburgh, PA

www.aapg.org/pittsburgh2013/

Visit www.ohgeosoc.org for all upcoming events

Ohio Geological Society Publications

The in-print publications of the Ohio Geological Society may be purchased from the Ohio Division of Geological Survey. Members of the Society receive a discount; the member price is in parentheses (M:). For more information on the Society, write the Ohio Geological Society, P.O. Box 14304, Columbus, OH 43214.

- OGS 4. Clinton sandstone papers presented at the Ohio Oil and Gas Association Winter Meetings 1961 to 1978 (abridged reprint of 1980 volume). 228 p., 1985. \$25.00 (M: \$20.00).
- **OGS 5. The new Clinton collection--1985**, edited by Jack Gray, Andy Maslowski, Warren McCullough, and W. E. Shafer (2nd printing). This edition includes a transcript of "Deeper Clinton-Medina drilling in southeastern Ohio" from a March 1986 Ohio Geological Society meeting. 257 p., 1985. \$25.00 (M: \$20.00).
- **OGS 7. Computer-aided analysis of geologic data**, edited by Lawrence H. Wickstrom. A collection of papers from a seminar presented at the 1987 AAPG Eastern Section meeting. 100 p., 1987. \$15.00 (M: \$12.00).
- **OGS 8.** Maps and cross sections of the Cambrian and Lower Ordovician of central Ohio, by G. G. Shearrow. 31 p., 8 pls., 1987. \$12.00 (M: \$10.00).
- OGS 10. The Ohio Geological Society anthology, the Morrow County, Ohio "oil boom" 1961-1967 and the Cambro-Ordovician reservoir of central Ohio, edited by William E. Shafer. 452 p., 1994. \$25.00 (M: \$20.00).
- **OGS 14. Ohio Geological Society Fifth Annual Technical Symposium**. Proceedings from the November 1997 technical symposium held in Akron. Ohio. 11 papers. 117 p., 1997. \$25.00 (M: \$20.00).
- **OGS 15. Petroleum seismology in the digital age**. Course notes from the Ohio Geological Society's 3-D Seismic Seminar presented at the 1998 AAPG Eastern Section meeting. \$20.00 (M: \$15.00).
- **OGS 17.** Into the new millennium: The changing face of exploration in the Knox play. Proceedings from the Sixth Annual Fall Symposium held in Akron, Ohio, October 1999. 16 papers. 120 p., 1999. \$25.00 (M: \$20.00).

To order any of the Society's publications contact: The Geologic Records Center, Ohio Division of Geological Survey, 2045 Morse Road, Columbus, Ohio 43229-6693. Telephone (614) 265-6576. FAX: (614) 447-1918. E-mail: geo.survey@dnr.state.oh.us.