



Ohio Section

American Institute of Professional Geologists

Summer Issue

June 2011

Chartered 1965

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Lake Erie Shoreline Erosion June 30, 2011

D. Mark Jones, CPG ODNR Division of Geological Survey

Date: Thursday, June 30, 2011

Location: LaScala Italian Bistro;
<http://www.lascalaitalianbistro.com/LaScala.html>

Schedule: Social Hour 5 pm; Dinner 6 pm; Presentation 7 pm

RSVP: President-Elect Greg Kinsall, (614) 526-2040
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See full announcement on page 3.

Ohio Section Annual Meeting Dinner Presentation November 10, 2011

Ohio Section of AIPG is pleased to invite you to the 2011 annual banquet and key-note presentation by:

Dr. Patrick Leahy, National Executive Director
American Geological Institute

RSVP: President-Elect Greg Kinsall, (614) 526-2040

Utica Shale Workshop, Kent State University June 21, 2011

See full announcement on page 8.

MESSAGE FROM THE PRESIDENT

Tom Berg, CPG-08208



Dear Ohio Section CPGs, Members, and Student Affiliates:

I am pleased to report that the Ohio Section is moving aggressively ahead on its priorities. The Executive Committee and Section Committee Chairs met in a regular session on May 11, 2011 at Burgess & Niple, Inc. in Columbus. One of our top agenda items was a presentation by Carol Swinehart, who has been maintaining the Ohio Section Website. The ExCom voted to approve funding of a complete updating and renewal of the section Website by Mrs. Swinehart. Within the next couple of months or so, we will have a completely modern Website to serve our members and others who use our site. We have a surprisingly large number of visits to Ohio's AIPG Website. To assist Carol in her work on the site, I have established a Section Website Committee including Tim Greenway (Chair), Mary Lou Rochotte, Michelle Eckels, Christopher Krumm, and Matt Justice (ex officio) and myself (ex officio).

At the May 11 ExCom Meeting, I also established a Bylaws Committee to review and update the Ohio Section Bylaws. The Committee includes Frank Majchszak, Christopher Krumm, Curt Coe, and me (Chair). Review and updating of the bylaws are long overdue (by a full decade), and I have already made a "first pass" over the bylaws to bring them up to date.

I am pleased to report that the Ohio Section Annual Banquet speaker for **November 10, 2011** will be Dr. Patrick Leahy, National Executive Director of the American Geological Institute (AGI). Dr. Leahy, who had a long and distinguished career at the U. S. Geological Survey before joining AGI, will share his views of new directions in the geosciences, and how professional geology is affecting public policies being developed in Washington DC.

At our last bimonthly meeting on April 28, 2011, the Ohio Section was most fortunate to have Mr. Scott J. Nally, new Director of the Ohio Environmental Protection Agency (OEPA), as our speaker. We had a record attendance of nearly 55 people who listened closely to Mr. Nally's dynamic presentation on new directions for the Agency. In my letter of appreciation to Director Nally, I reiterated AIPG's expectation that correct geologic information be used in environmental decision-making in Ohio. Because there is no public licensure or registration of geologists in Ohio, I assured Director Nally that AIPG stands ready to provide professional guidance for OEPA. In my letter, I also expressed concern over the future of the Ohio Geological Survey—the State's premier geoscience agency. The citizens of Ohio need to have all the continued services of the Geological Survey as it provides precise surface and subsurface geologic mapping and reliable and unbiased assessments of mineral, water, and energy resources, and geological hazards. I expressed hope that Director Nally would champion restoration of the Survey's \$2,000,000 in General-Revenue Funds.

Finally, I am very pleased to announce two very generous presentations by the AIPG National Foundation. The Ohio Section has received \$4,000 for educational purposes. In addition, the Wright State University Student Chapter has received \$10,000 for geoscience-education purposes. Readers will remember that the Wright State Chapter was the first AIPG Student Chapter in the Nation. We are most grateful to the AIPG Foundation for these generous presentations. We will learn more about use of these funds in future Newsletters.

Lake Erie Shoreline Erosion, June 30, 2011 (continued from page 1)

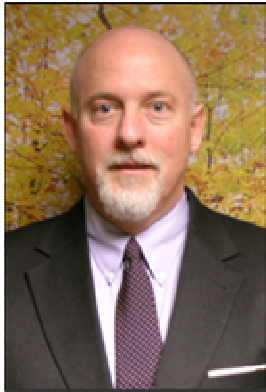
D. Mark Jones, CPG

Conceived to address erosion problems on Ohio's Lake Erie coast, Ohio's coastal erosion program was a response to decades of land loss, infrastructure damage, and haphazardly designed shore protection structures that are ineffective and that sometimes exacerbate erosion problems. The program identifies coastal erosion areas (CEAs) – areas likely to be impacted by erosion in the next 30 years. These areas are subject to certain requirements for building or further development. Maps depicting CEAs are created using aerial photographs, which serve as the base maps onto which historical shorelines are traced. The historical shoreline and the shoreline on the aerial photographs are digitized, and GIS is used to calculate the distance between the shorelines and the yearly rate of recession. The yearly recession rate is multiplied by 30 to arrive at a 30-year anticipated recession distance, which, if in excess of a certain threshold value, is plotted onto the base map. Landowners can use the maps to determine if their properties are located in a CEA. The first CEA maps were finalized in 1998, and an updated set of maps was released in late 2010. The latest maps show that the amount of Ohio's coastline in a 30-year recession zone has declined by about two-thirds since the first maps were finalized. The reduction is most likely due to lower lake levels and increasing amounts of engineered shoreline protection.

Biography

D. Mark Jones is the coastal geologist at the Ohio Department of Natural Resources – Division of Geological Survey. Following an early career in chemistry and printed circuitry, he began with the Geological Survey as an intern at the Lake Erie Geology Section in Sandusky. Mark later relocated to Columbus for employment in environmental consulting, primarily at Metcalf and Eddy (now AECOM Environmental). Among his major projects were groundwater modeling, investigations, and remediation at Beale U.S. A.F.B. in California and Newcomerstown, Ohio; and as a consultant to FEMA for disasters such as the World Trade Center and Hurricane Ivan. With the closure of the Geological Survey's Sandusky office, he saw an opportunity in 2008 to return to the Survey. Major and ongoing projects include the study of coastal erosion and near-shore sedimentary processes, as well as surficial mapping.

Ohio EPA Director Nally Addresses Ohio Geologists



Approximately 55 members of Ohio's geological community attended the Ohio Section's April 28 dinner presentation at LaScala Italian Bistro, featuring recently appointed Ohio EPA Director Scott J. Nally. The director was accompanied by his Deputy of Communications, Mr. Chris Abbruzzese. After dinner, President Tom Berg provided a brief summary of the Ohio Section's founding purpose. President-elect Greg Kinsall then introduced Director Nally.

Introduction and Background

Director Nally remarked that his meeting with the Section marked his 100th public engagement and his 117th "day on the job." Describing his management approach as "plan, do, check, approve," he shared an aggressive agenda in an information-packed talk. Speaking for approximately one hour without use of visual aids or notes, Director Nally covered a wide range of topics.

Director Nally holds a Bachelor of Science degree in biology from North Carolina State University, and a Master of Science degree in biology, specializing in biochemistry and agriculture, from the University of Wyoming. He studied agriculture in the doctoral program at Purdue University. *Editor's Note: Mr. Nally is the first director in Ohio EPA's 39 year history to have a science background.*

Mr. Nally served as a vice-president of Perdue Farms, a leading food and agricultural company. The past 6 years he served as a senior manager at the Indiana Department of Environmental Management. After Ohio's 2010 gubernatorial election, Indiana Governor Mitch Daniels recommended Mr. Nally to Ohio Governor-elect Kasich. Director Nally brings over 20 years of public and private experience to the position.

Streamlining Government

Ohio's budget for the 2012 and 2013 biennium will reduce Ohio EPA funding by 13.8%. Facing budget cuts, the new director shared a number of plans to improve efficiency. Since taking office, he has combined three Ohio EPA divisions into two. The former Division of Hazardous Waste Management (DHWM) was absorbed into two pre-existing divisions. The RCRA corrective-actions component of the former DHWM was absorbed into the Division of Environmental Response and Revitalization, formerly called the Division of Emergency and Remedial Response. At the same time, the inspections component was absorbed into the new Division of Waste and Materials Management, formerly called the Division of Solid and Infectious Waste Management (DSIWM). Director Nally also commissioned an internal efficiency task group. To date, the group has received 1,400 recommendations from agency staff.

Brownfields

Director Nally expressed a need to restructure and streamline Ohio's Brownfields program, citing a growing number of abandoned sites across the state. He noted that Cleveland alone has over 29,000 abandoned sites. To reduce and reuse abandoned

properties, plans are underway to revise the program so that individual sites may be grouped together for quicker action. He proposes giving communities receiving sewer upgrade grants the flexibility to allocate funds toward brownfields cleanup. He commented that Cleveland is undertaking a \$3.8 billion upgrade of its sewer system to convert and eliminate all combined sewers (those carrying both waste and storm water).

Director Nally is coordinating with the Ohio Department of Commerce to integrate Bureau of Underground Storage Tank Regulations (BUSTR) and Ohio EPA Voluntary Action Program (VAP) regulations. Such integration he said will allow “one stop shopping” for volunteers, where they may apply for one rather than two No Further Action (NFA) letters. He also hopes to reduce the long delays applicants currently face. Reimbursement delays from the Petroleum Underground Storage Tank Release Compensation Board (PUSTR) can be as much as 14 months.

Surface Water

Under Director Nally’s leadership, Ohio EPA is in the process of streamlining its 401 Water Quality Certification and Isolated Wetland Permit Section. The Section reviews Clean Water Act project applications that may affect waters of the state, including streams, lakes and wetlands. One consultant in attendance shared that the agency took 2 years before responding to his permit application. To expedite the process, Director Nally said he plans to have division chiefs serve as the primary point of contact on permits, rather than staff-level employees. He also plans to institute an on-line application process.

Pursuant to the federal Clean Water Act, applicants for discharge of dredged or fill material into the waters of the U.S. must obtain a Section 404 permit from the Army Corps of Engineers and a Section 401 Water Quality Certification from the state. Director Nally said he will work to help Ohio receive authority over the 404 program, and integrate it with the 401 application process. Other states have 404 authority, whereby applicants may apply for both 401 and 404 permits concurrently. Integrating the process he said would remove the historical state of “friction” between Ohio EPA and the Corps.

Director Nally stated that he does not favor a general requirement that all surface water discharges be below 500 mg/L total dissolved solids (TDS). He stated that natural background often is already above 500 mg/L. Instead of using TDS, he said sodium or bromide would be more appropriate standards. He indicated that the federal government is pursuing a 500 mg/L TDS limit, so he anticipates future negotiations. *Editor’s Note: In response to Marcellus Shale drilling, Pennsylvania, in 2010, passed regulations limiting oil and gas industry related discharge to streams at 500 mg/l TDS. The Ohio River Valley Sanitation Commission (ORSANCO), an interstate commission representing eight states and the federal government, has commenced rule-making to propose a TDS standard of 500 mg/l on all discharges into the Ohio River.*

Air

Director Nally commented that an air permit is often one of the first that must be obtained before construction can begin on many development projects. He noted that Ohio EPA has an “unacceptable” backlog of approximately 3,200 permits. Some of these were

issued, he noted, but were later legally challenged by outside interest groups. Director Nally is currently working with the Ohio Attorney General to develop solutions to address those challenges. The Director also hopes to streamline the Title 5 permit application process, so that less complex applications may be reviewed expeditiously, while those that are more complex may be allotted sufficient review time.

Director Nally indicated that the U.S. EPA is expected to begin enforcing new ozone regulations this August. These regulations set limits which 39 Ohio counties likely will fail. As a result, Ohio EPA will be forced to take steps to be in compliance. Some states are already requiring blended fuels, instituting credit sharing, or implementing E-Check. He said Indiana's blended fuels requirement has not been successful. While he does not favor E-Check, he said it may be Ohio's only alternative.

Technology

The director stated that Ohio EPA will update and simplify its website. As a measure of success, visitors should be able to reach their destination within four mouse-clicks. Steps are also being implemented to incorporate RSS feeds and QR tags.

Petroleum

In regards to the Marcellus and Utica shale plays, the director offered that some estimates for Ohio predict: 15,000 to 20,000 new wells; \$400 to \$800 billion in revenue over the next 9 years; and 200,000 new jobs. He said the Governor of Pennsylvania informed him that their state has gained 115,000 new jobs with an average income of \$65,000/yr, where the average income is \$30,000/yr. In regards to media coverage of hydraulic "fracking", he said it's not a new technology, only now combined with directional drilling; "you guys know about fracking," he stated. In regards to media concerns, he noted that historically some 15,000 boreholes have been fracked in Ohio alone without problem. The Director announced 3 months ago that Ohio will not allow publically-owned treatment works to accept fracking fluids. He said fracking fluids will either be recycled or disposed of in deep injections wells regulated by the Ohio Department of Natural Resources (ODNR). The director said that he wants to avoid having duplicative regulatory coverage with ODNR. Even though Pennsylvania is at least two years ahead of Ohio in development, the state faces a severe shortage of underground injection wells for disposal of fracking fluids. As a result, Pennsylvania is in the position of having to transport fluids into Ohio and pay disposal fees.

Questions and Concluding Remarks

The director graciously fielded numerous questions. When questioned by member consultants about the need for more timely response from the agency on submittals, he said he advocated a shift toward performance-based employee reviews.

President Berg made an appeal for the director's assistance in advocating a return to general revenue funding for the Ohio Geological Survey. Mr. Berg said elimination of all general revenue funding in 2009 was a national embarrassment. He stressed the value of the Survey's expertise in numerous fields, including petroleum. When asked whether he foresaw Ohio allowing drilling for natural gas in Lake Erie, the director responded that he had no objection to it, but "the compact (the boundary waters treaty between the U.S.

and Canada) won't let me do it." He said he doubted that the U.S. moratorium will be overturned during his tenure.



Director Nally stated that he was disappointed to learn from Section members that Ohio does not have registration of professional geologists. He indicated he would explore the issue further, "I may be able to bend some ears." He stressed the importance of professional geologists in achieving the goals of Ohio EPA. Citing several cases where geological expertise is necessary he added, "I don't have enough of you, you guys are problem solvers." He

indicated that he hoped to fill some of the agencies' vacancies with more geologists. After an enthusiastic round of applause, President-elect Greg Kinsall presented Director Nally with a commemorative plaque on behalf of the Section. A replica of Ohio's state fossil, *Isotelus maximus* was mounted on a finished wooden plaque with a brass plate bearing the inscription: "Scott J. Nally, Director, Ohio EPA, In Appreciation, Ohio Section of AIPG, April 28, 2011".

Ohio Geological Survey Launches Online Store

The Ohio Department of Natural Resources (ODNR), Division of Geological Survey, has launched its new online store: www.OhioGeologyStore.com. Geologists, engineers, industry, public agencies, educators, and rock hounds of all types will find many useful products, including maps, guidebooks, technical reports and geologic investigations, books, and posters. Customers can browse selected publications, featuring images and descriptions of each product, from the comfort of a home or office. Customers also can easily move from the online store to the division's website to access free downloads, interactive maps, and additional news and information about Ohio's geology. While publications still can be ordered by phone or by visiting the Geologic Records Center on the ODNR main campus in Columbus, the Ohio Geology Store provides a valuable, modernized means of accessing more than 170 years of geologic information and data.

“TAKING A DEEPER LOOK AT SHALES: GEOLOGY AND POTENTIAL OF THE UPPER ORDOVICIAN UTICA SHALE IN THE APPALACHIAN BASIN”



June 21, 2011
8:00 A.M. – 4:00 P.M.
Kent State University-Tuscarawas
New Philadelphia, OH



Sponsored by
Petroleum Technology Transfer Council,
Ohio Geological Survey, & Ohio Geological Society

Hosted by
Kent State University at Tuscarawas &
Appalachian Oil & Natural Gas Research Consortium

COURSE DESCRIPTION

Potentially huge natural-gas plays are being developed in black, organic-rich shales in numerous basins all across the United States. The Appalachian Basin is no exception, with active horizontal and vertical drilling to the Marcellus Shale (Middle Devonian) in Pennsylvania and West Virginia, and perhaps in New York in the near future. However, even as this potentially lucrative play is being developed, some operators are beginning to look a little deeper, focusing their attention on the Utica Shale (Upper Ordovician), especially at the northern end of the basin in Canada, Pennsylvania, New York, and Ohio.

The Utica Shale (and Utica-Point Pleasant in Ohio) is both thicker and more widespread than the Marcellus, averaging over 200 feet thick in Ohio and reaching upwards of 800 feet in New York, where it thickens into syn-depositional grabens. The areal extent of the Utica continues well beyond the subsurface extent of the Marcellus on all sides of the basin. Results from early drilling programs show great promise, not only for gas, but for condensate and oil production as well. Currently, companies are searching for more information on the Utica, including thickness, depth, stratigraphy, mineralogy, petrology, total organic carbon (TOC), thermal maturity and burial history.

The goal of this workshop is to make industry aware of the results of research and data on the Utica Shale that are available in the public record and to provide a status report on initial drilling programs. Utica-based research by the USGS and state geological surveys began as part of the Eastern Gas Shales Project in the 70s and has continued largely unnoticed.

In addition to technical presentations, the Ohio Geological Survey will provide Utica cores for inspection, along with summaries of data derived from these cores.

WHO SHOULD ATTEND

Petroleum engineers; managers; petroleum geologists; personnel with assignments in production, reservoir engineering, and environmental compliance; regulatory bodies; and state agencies.

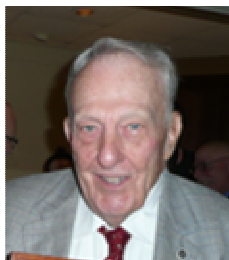
LEARN/KNOW AFTER ATTENDING

Attendees will have a better understanding of the thickness, extent, mineralogy, petrology, geochemistry, thermal history, and petroleum resource of the Utica Shale.

Featured Article

Memory of a Natural Gas Drill Proposal History, In and Under the Submerged Lands of Lake Erie, Ohio

William E. Shafer, CPG-1620 shafer200@aol.com



In 1968, the State of Ohio made preparations through its Department of Natural Resources, Division of Geological Survey, to open Lake Erie for oil and gas drilling and production. At that time, Canada had a successful, on-going history producing gas and oil in Lake Erie. Then in 1969, the so called California, "Santa Barbara oil spill" occurred stopping all over-water drilling and production.

Ohio Moratorium, Canadian Drilling

Thereafter, the International Joint Commission [IJC] between the United States and Canada made correlative investigations ruling that gas only may be drilled and produced in Lake Erie. By definition, the IJC rules apply equally to both countries, the bordering U.S. states and Canadian provinces. Subsequently, Canada commenced a successful natural gas drilling and production program on their side of the boundary. All discovered oil wells were [and are] immediately plugged. As for the U.S., the federal government took a "no-drill" position, deferring operational primacy to the State of Ohio. Ohio established a so called "Moratorium" denying the drilling and production of natural gas on the U.S. side of Lake Erie. Ohio has continued the Moratorium to this day. Canada however developed a rather large natural gas field. They have had no trouble with their operations over these many years.

As a point of interest, the IJC found in their Santa Barbara, California, oil-spill investigations, that part of the off-shore oil originated from natural gas and oil seeps associated with the costal channel-bottom.

Minority Opposition Stalls Policy

A last Lake-status understanding is that the Ohio legislature passed their Moratorium in the '70's and renewed it at least once since then. Whenever the issue has come up, the opposition and friends have had enough influence in the Ohio legislature to continue it. The opposition alleges "environmental issues."

The Ohio AIPG Section of the day, attempted to create a professional "position paper" on the technical merits of the "Lake-Drill Question" to assist policy formation, but could not reach their own consensus. The majority members were sensitive to the minority feelings

in opposition. No professional action was taken. Now that the question is essentially out of mind, the Ohio legislature's prohibition continues to deny drilling for natural gas.

The anti-drilling concern at the time of the Moratorium rested in the political "fall-out" from some of the lake-shore residents and others alleging an "environmental concerns" claim. Yet oil and chemical tanker ships continue to ply Great Lake waters on a daily basis, particularly during the summer months. During the author's project research, there were seven large tanker ships in the lake's shipping lanes. Many foreign and domestic commercial ships and pleasure craft travel Lake Erie constantly in season with petroleum-based energy. The U.S. Army Corps of Engineers was neutral regarding natural gas drilling operations within their jurisdiction.

Historic Drilling Proposal to the Ohio Department of Energy

Shafer Exploration Company of Columbus, Ohio [the author's vertically integrated, wholly-owned company] proposed [unsolicited], then was commissioned and wrote an independent report for the Ohio Energy and Resources Development Agency [OERDA], predecessor of the Ohio Department Of Energy [ODOE], both now extinct. This report was titled: Feasibility Study, Ohio Lake Erie Natural Gas Exploration and Development for the Ohio Energy and Resources Development Agency, September 1, 1977. It evaluated the drill-potential and requirements for Lake Erie natural gas development. The report was timely, completed on-budget, well received by OERDA, and re-printed and sold to the public by ODOE.

The report recommended that three spaced test-wells be drilled through the Clinton Formation, in sequence, for natural gas, approximately one mile and more off-shore. These would be on designated, data rich, sequential locations for ten days more or less. Within this process, and with key agency representation aboard, Shafer Exploration Company would design and execute offshore safety, drilling, production and supply protocol. It would be based on the similar, proven Canadian off-shore protocol and include the then rather new and modern Ohio [land] drill and production regulations, as well as input from all other pertinent over-water Ohio agencies. *Note: the U.S. Coast Guard has the primacy role in all on-water considerations.* The proposal was planned to be a significant, inclusive demonstration. The report detailed the geologic setting and operational procedures with illustrations. Post demonstration product would be a tested, and a hands-on procedure report-book would be made available to the state administration and the public prior to any "opening of the Lake" [by organized blocks and bid] to interested individuals and companies.

Ohio continued its Moratorium. In several Ohio legislative hearings related to the lake-question, the League of Women Voters and others seemed to be very concerned about the "spillage" of natural gas. There was very little that a logical discussion could do to gain their attention.

During the Shafer report of investigations, several Canadian, off-shore jack-up and floating platforms were operating and available. The jack-up platform the author visited was called the "Mr. Neil." The conventional drill-rig and associated operations equipment all came from the U.S. gulf coast. The living and working quarters were very clean. The platform and rig were spotless. The noon meal was well served and substantial. The operations were very efficient with no spillage of fluids. Safety was properly a high priority. The well heads were in lake-bottom "cellars" and had net-deflectors. There were other operational considerations that were satisfied through good geological and engineering programs.

There was also, at this time, a concentrated effort by an international geophysical contractor to interest industrial and individual subscribers in an over-water "group shoot" by [floating] seismic reflection survey, in-grid layout, on the lake to define the subsurface. The survey was also designed to come ashore [Ohio] and tie into a land seismic survey. Considerable interest, time and energy were expended in this enterprise, but the effort terminated when the State would not lift its Moratorium and change its permitting position. The Ohio Division of Geological Survey was the well permitting agency. Both the Survey and the Division of Oil and Gas were the geo-technical agencies of record.

Funding for the three test-wells would have been a joint U.S. Department of Energy and ODOE venture. The U.S. DOE and therefore the ODOE had a worthy budget, and would have been able to assume the majority of expenses. Other sources of potential funding were anticipated from the private sector on a negotiated formula arrangement. The ODOE was an enthusiastic ally in the proposal. Public and private investments would be retired as stakeholders received landowner royalties and working interest revenues.

Shafer was managing complete drill and production programs for industrial and other clients [in fee] on-shore and had a good, reliable experience history in these operations. Shafer always employed a good, tested blow-out preventer [BOP] and casing program per Ohio [and company] drill regulations. Drilling off-shore on a platform, or on-shore, presented no significant negative challenges.

New logistics involved over-water traffic, which was competitive and available out of the several ports servicing Lake Erie. Pipeline routes and maintenance were additional important considerations. The gas-fluid separations would be made at shore locations in normal shore operations. Shafer planned to use a Canadian jack-up platform, drill and completion crews. The Canadians were pleased to be included in the demonstration and could have men and equipment available on reasonable notice.

OPEC and Regional Shortages

This was a time [1970's] too, when the State of Ohio "spun-up" its so called, "Natural Gas Self Help Program" for industries to drill and secure their own natural gas. The Republican administration in-office developed this program in response to the gas and oil

shortages brought by the modified, limited, OPEC embargo of 1973 and the occasional severe winter natural gas demands from under-capacity pipelines.

During regional natural gas shortages, the public utilities denied industry customers before individual client households. If the shortage became severe, then households would be rationed. The shortages of the '70's required affected industrial-client operating-areas to be shut-down temporarily. Those that were suffered business losses. The author visited some of these industries in the process of "doing contact-business" and saw their assembly lines and workforce idle. It was a sad and bad scene. Ironically, many of these companies were situated, and had acreage, on natural gas deposits in the eastern portion of Ohio. Natural gas was particularly available in Ohio's industrialized northeast, with obvious, potential product extending out under the submerged lands of the Lake into Canada, from the Pennsylvania border to Cleveland. The vigorous Canadian-lake operations on the other side of the International Boundary were long noted and compelling.

Later, when Shafer Exploration Company or its affiliate REDCO, Inc. were drilling for natural gas on a large industrial property close to and including the shore between Ashtabula and the Perry Nuclear Power Plant, Shafer proposed a location on-shore on a rural, scenic bluff overlooking the Lake. The directional drill would place the bit at the Clinton Reservoir objective, offshore, within legal specifications, and at depth. The Division of Geological Survey thought it was a complimentary, novel proposal, discussed it, but could not approve it. They referenced the negative resistance from the governor's office in the standing Moratorium.

We may wonder why the U.S. political administrations remained so energy blind for so long. One answer, of many, is that OPEC's cheap-oil and gas availability was overwhelming. It flooded the market and closed-out much of our domestic oil exploration and production industry nearly overnight.

For the U.S. petroleum industry, the '80's were a dark decade, was worse than the "Great Depression Era" of the '30's. The various levels of our government were particularly insensitive and unsympathetic to the decimation of our domestic petroleum exploration and drilling industry. The refining portion of our domestic oil industry continued to flourish. We note with some nostalgia that the U.S. was petroleum self-sufficient and not a net importer of foreign oil until about 1967. There was no meaningful U.S. energy policy as the U.S. approached and exceeded this significant date.

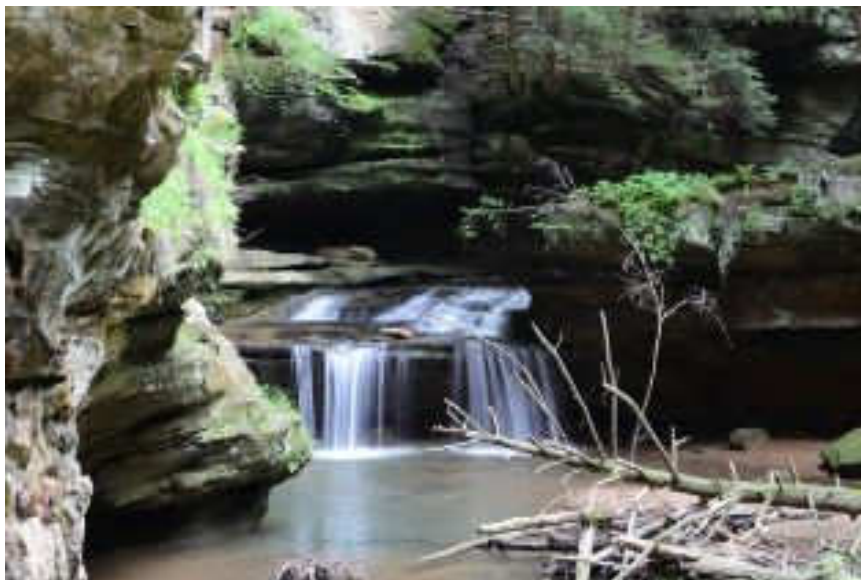
Summary

Going to the lake safely was an obvious next move in the author's mind, for a consuming public interested in domestic, locally-available clean fuel. Natural gas can be produced safely, in an environmentally-sound way, and profitably from the U.S. [Ohio] side of the

International Boundary, within the submerged lands of Lake Erie. Lake Erie drilling for natural gas should have been permitted by Ohio at the same time Canada resumed their program.

Biography

Mr. Shafer has been a member of the Ohio Section of AIPG since 1971. He was elected president in 1974. During the same year, he led the Section's efforts in pursuit of state registration of geologists. He is a 2009 recipient of Ohio Section's Outstanding Achievement Award. He was president of the Ohio Geological Society in 1974 and elected Honorary Life Member in 1996. He contributed to, and edited the Society's 1994 publication, Morrow County, Ohio "Oil Boom" Anthology 1961 – 1967. He is a member emeritus of the American Association of Petroleum Geologists and the Society of Exploration Geophysicists. He is a Registered Professional Geologist in the State of Wyoming. From 1946 through 1947, Mr. Shafer served in the regular Army of the United States in the Second Infantry Division as an active duty mountain and cold weather warfare instructor and thereafter as an Army reservist until mid-1951. After graduation from Ohio State University in 1951, he launched a geologic career spanning five decades, beginning as a geophysicist with the United Geophysical Company, followed by Union Oil Company of California, and later the California Oil Company (Chevron). After service with the State of Ohio, Mr. Shafer was self-employed for thirty-three years. He founded Shafer Exploration Company Inc., and later the Resources Exploration Development Company Inc. (REDCO). He has written numerous technical reports and supplied expert consulting services to a variety of public and private clients.



Hocking Hills gorge, Ohio Section fall field trip; photograph by Greg Kinsall, October 2010

A GEOLOGICAL FIELD EXCURSION
 Organized by the
 Michigan Basin Geological Society and
 supported by the AIPG-Michigan Section

**THE MARQUETTE SYNCLINORIUM
 AND AREA GEOLOGY**

Thursday, September 16th through Sunday, September 18th, 2011

This field trip will provide participants a variety of geological experiences to include metamorphic, volcanic and sedimentary rock sequences; discuss rocks which represent some of the oldest known rocks on the North American Continent; observe rocks which formed prior to the planet's oxygen-rich atmosphere; examine the fossilized remains of the organisms which generated our planet's oxygen-rich atmosphere; walk on and photograph the world's largest gemstone; review rocks with different grades of metamorphism and more.

During the two and one-half days of this field trip, Dr. Robb Gillespie, Assistant Professor at Western Michigan University, will walk the participants through the Archean and Proterozoic rock sequences spanning time from 2.8 billion years ago to 1.06 billion years ago. Included in the stops will be a structural, a mapping, a cross-section and a fault exercise to participate in.

Itinerary:

Friday, September 16th, 2011:

- Meet at Holiday Inn lobby to register and depart for four stops during the morning. Stops will review and discuss the Archean Northern Complex. A structural and mapping exercise to be provided for the participants. A sandwich buffet lunch to be provided at a local park pavilion. Three afternoon stops will be visited to review the Marquette Supergroup. A cross-section and a fault exercise will be offered to the participants.
- An evening lecture by Robb Gillespie will be provided from 8pm to 9pm at a conference room in the Holiday Inn. The talk is titled "Marquette Area Geology".

Saturday, September 17th, 2011:

- Meet at Holiday Inn to depart four stops during the morning. Stops will continue discussion of the Marquette Supergroup and the metamorphic grades near the Republic Trough. Discussions will focus on structure and faults. A pasty lunch to be provided at a local park pavilion. Three afternoon stops will continue the review of the Republic Trough metamorphic grades and rocks of the Marquette Supergroup.
- An evening lecture will be provided from 8pm to 9pm at a conference room in the Holiday Inn. The talk author, title and description will be provided at a later date.

Sunday, September 18th, 2011:

- Meet at Holiday Inn to depart for three stops during the morning. Stops will review the Sudbury Ejecta deposits and the Keweenaw Period rocks. Discussions will focus on depositional environments. A visit to the Michigan Iron Mining Museum is included. The trip will end at noon on Sunday at the Holiday Inn.

THE MARQUETTE SYNCLINORIUM AND AREA GEOLOGY FIELD EXCURSION

September 16, 17 & 18, 2011
REGISTRATION FORM

NAME: _____

EMAIL ADDRESS: _____

MBGS Member: \$100 Non-Members: \$125 (plus membership)
MBGS Student Member: \$50 Non-Member Students: \$65 (plus membership)

Registration deadline is *July 15, 2011*. There is a limit of 45 registrants.

All participants must be members of the Michigan Basin Geological Society

Membership Applications can be downloaded at www.mbgs.org/membership.html

Send payment in US Funds with the registration form (and application if applicable)
to:

*Marquette 2011 Field Excursion, Michigan Basin Geological Society
P. O. Box 14044, Lansing, MI 48901-4044*

The fee will include the following: Lunch on Friday and Saturday, transportation by chartered bus with restroom, conference room rental, guidebook, beverages, snacks and coffee/donuts while on the bus.

You will be responsible for: your lodging and meals (except for Friday and Saturday lunches), all your transportation to and from Marquette.

You must be a member of the Michigan Basin Geological Society to participate. You can become a member by retrieving an application at our website <http://mbgs.org>. Registrations should be submitted no later than July 15th, 2011. Please call ahead to confirm openings are available at (517) 719-8321.

A block of rooms have been reserved for the participants at the Holiday Inn of Marquette, 1951 US 41 West, Marquette, MI 49855. You are responsible to make your own reservations by calling (906) 225-1351 direct. The base rate for a room is \$75/night (2 double beds) and does not include taxes. Please let the hotel registration know you are with the Michigan Basin Geological Society to get the group rate. This rate is good only through to August 31st, 2011.

Boots with ankle support and safety glasses are strongly encouraged if participating in any rock collecting activities.

If you have any questions, please contact Mark Wollensak at wollensak@voyager.net or (517) 719-8321.

College credits (2) are available for qualifying education students participating on this trip and can be made through Sandra Rutherford, Associate Professor, Geoscience Education, Geography and Geology Department, Eastern Michigan University at 734-487-8588 or srutherf@emich.edu.

Letters to the Editor and Editorial Submittal Guidelines

The Ohio Section welcomes and encourages membership discourse via the Section newsletter on relevant geopolitical and geological topics, in accordance with our chartered purpose. Contributing authors are requested to abide by the following guidelines to ensure civility and professionalism.

1. Scientific interpretations should include accurate and effective references.
2. Opinion pieces should be presented with reasoning. Fellow members may choose to comment or challenge a submittal with their own contribution.
3. Authors must abide by the AIPG Code of Ethics. Any author who violates this code will not be published. Authors must be respectful to fellow members, all political parties, officials and candidates.
4. Letters to the Editor should be under one page in 12 pt. Arial font.
5. Member authors should provide their name and certification number

Contributions to the Ohio Section newsletter do not necessarily reflect the opinion of the Ohio Section or the editor. We reserve the right to edit for clarity and space considerations.

Please send submittals to the editor at matt.justice@sbcglobal.net

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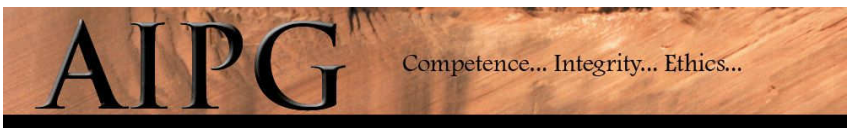


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