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Investigations and Mining the OARS Tunnel

Brian Mott – DLZ Ohio, Inc.

Thursday, April 17th

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

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

RSVP for the lunch and/or meeting to
Mac Swinford at macswinford@gmail.com
Thursday, April 17\textsuperscript{th}

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

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

**RSVP for the lunch and/or meeting to
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\textit{Investigations and Mining the OARS Tunnel}

Brian Mott – DLZ Ohio, Inc.

The OARS Tunnel is a 20-foot diameter sewer tunnel being constructed for the City of Columbus to prevent combined sewer overflows from downtown Columbus entering the Scioto River. The tunnel will eventually extend from the Jackson Pike Waste Water Treatment Plant on the City’s south end to north to Interstate 670, just north of the Arena District. The tunnel is currently being mined through the bedrock nearly 200-feet beneath surface. Although yet to be completed, subsurface conditions have presented several challenges to the contractors while excavating the six access shafts, as well as the mining the first two miles of the 4.3 mile long project with a tunnel boring machine. A team lead by DLZ, conducted the subsurface investigations and designed the tunnel over a period of five years. These investigations strongly suggest that there would be unique conditions and challenges that would be faced during construction.
The Ohio Academy of Science
State Science Day

Saturday, May 10th

The Ohio State University
Columbus, Ohio

http://www.ohiosci.org/

Each year The Ohio Geological Society presents a GEOLOGICAL AWARD to the best projects in the geological sciences in the form of cash and certificates of merit.

Interested in judging?
Please contact Amy Lang at amy.lang@formanenergy.com or 614-717-9262.
More Informed Drilling and Completions Through Advanced Cuttings Analysis at Wellsite

King, R. Ryan, ALS Empirica

Routine geochemical screening methods combined with advanced mineralogical and elemental stratigraphy data are integral to successful unconventional petroleum reservoir assessment and development. Advances in instrumental technology and field deployment strategies are shown to facilitate “near real time” acquisition of these data sets while drilling. Specifically, data obtained from drill cuttings and core chips are organic richness (TOC), thermal maturity parameters (Programmed Pyrolysis), weight percent of all rock-forming minerals including total abundance of clay (XRD) and weight abundance of over 20 elements (ED-XRF). These screening measurements are conducted on large numbers of samples to assess the distribution of reservoir characteristics across the zone of interest in the subsurface.

Along with a full investigation of the equipment, service and deliverables, we report selected results from wellsite screening of cuttings and whole core samples collected from both the vertical pilot and lateral sections of a Permian Basin well. The data acquired from the vertical pilot were used to identify the most attractive unconventional target by comparing individual geochemical assessments (organic content, thermal maturity, present day kerogen characteristics and available hydrocarbon content) of each organic-rich interval encountered. Mineralogy and elemental chemostratigraphy refined the target by screening for the best completions quality within the selected target interval. Elemental data obtained through the lateral section mapped the path of the wellbore through the stratigraphy by correlation to the vertical type log. Geochemistry, mineralogy and proxy brittleness data from the lateral section identified lateral heterogeneity of the wellbore for customized completions design. Comparisons of these key rock properties to completions notes and other performance audits on a well, stage or cluster basis will improve future drilling and completions plans.
June 19-21, 2014

Field Trip, Saturday, June 21, 2014: Tentative stops to include American Refinery, Penn Bradford Museum, historical stop in Bradford, Pioneer Oil Museum in Bolivar, New York, and the oil seep at Cuba, New York.

Abstracts being accepted; Proceedings to be published in the next volume of Oil-Industry History.

Please send abstracts to Bill Brice, wbrice@pitt.edu. Abstract Deadline: MAY 1, 2014.

CALL FOR NOMINATIONS

The Petroleum History Institute is accepting nominations for the 2014 PHI awards listed below.

The Colonel Edwin L. Drake Legendary Oilman Award
Honoring a lifetime of achievement within the oil and gas industry.

Samuel T. Pees Keeper of the Flame Award
Recognizing individuals who have devoted their efforts to preserving the heritage of the oil and gas industry and bringing before the public the heritage and history of the oil and gas industry.

Distinguished Service Award
Presented to PHI members in recognition of those individuals who have donated significant time, energy, and expertise to the advancement of the Petroleum History Institute.

Please forward nominations to:
Ray Sorenson, sorensonrk@sbcglobal.net.

Registration costs and additional information will be posted on the PHI web site: www.petroleumhistory.org.
2014 SES Seminar Schedule

Coffee Time at 3:15 pm. All seminars are at 3:45 pm in Mendenhall Laboratory Room 100 unless otherwise noted.

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<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
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<tr>
<td></td>
<td>UCLA</td>
<td>Hosted by Berry Lyons</td>
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<tr>
<td>2014-04-21</td>
<td>Anthony Koppers</td>
<td>Drilling Hotspots to Unravel the Mantle Wind</td>
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<td>Oregon State University</td>
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<td></td>
<td>Hosted by Ann Cook</td>
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Proceeds from the sale of *Ohio Rocks!* license plates will benefit a new Earth science education and outreach fund, which will issue a number of grants to Earth science students at Ohio colleges and universities each year for research on the geology of Ohio. Such work by Ohio’s geology departments will supplement research performed by the Ohio Geological Survey and will attract new funding to the state. Additionally, a portion of the funds will be dedicated to providing educational outreach to Ohio’s K–12 schools in support of Earth science, including the Survey’s popular rock-and-mineral kit program.

To order, visit www.oplates.com.
# CALENDAR

<table>
<thead>
<tr>
<th>Month</th>
<th>Event Details</th>
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| April | **OGS Meeting**  
Investigations and Mining the OARS Tunnel  
Brian Mott – DLZ Ohio, Inc.  
Holiday Inn Columbus-Worthington – Worthington, OH  
[www.ohgeosoc.org](http://www.ohgeosoc.org) |
| May | State Science Day  
The Ohio State University, Columbus, OH  
[http://ohiosci.org](http://ohiosci.org) |
| May | **OGS Meeting**  
More Informed Drilling and Completions Through Advanced Cuttings Analysis at Wellsite  
Ryan King – ALS Empirica  
H. R. Collins Lab and Core Repository – Delaware, OH  
[www.ohgeosoc.org](http://www.ohgeosoc.org) |
| May | **OGS/ODNR Workshop**  
Depositional Systems and Hydrocarbon Potential of the Upper Devonian Ohio Black Shales  
H. R. Collins Lab and Core Repository – Delaware, OH  
[http://geosurvey.ohiodnr.gov](http://geosurvey.ohiodnr.gov) |
| September | **OGS Golf Outing**  
Chapel Hill Golf Course, Mount Vernon, OH  
[www.chapelhillgolfcourse.com](http://www.chapelhillgolfcourse.com) |
| September | 42nd Annual Eastern Section AAPG Meeting  
London, Ontario, Canada  
[www.esaapg2014.org](http://www.esaapg2014.org) |

Visit [www.ohgeosoc.org](http://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 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.