



The Rock Record – April, 2013

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*Please contribute to the SGS
Newsletter*

The SGS Newsletter is produced by the SGS executive. Letters, announcements, notices, comments, photos, news and information about SGS members, etc. are always welcome. Call an executive member or write to us at:

**Saskatchewan Geological
Society**

**P.O. Box 234
Regina, SK S4P 2Z6**

SGS e-mail address:
info@sgshome.ca

SGS Website:
www.sgshome.ca

All advertising inquiries should be directed to **Dan Kohlruss**

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Saskatchewan Geological Society Talk

Tuesday, April 16th

Dr. Jeffrey May, AAPG Distinguished Lecturer

**Mudrock Reservoirs – Why Depositional Fabric &
Sequence Stratigraphic Framework Matter**

**Ramada Hotel, 1818 Victoria Avenue, Regina
Poplar Room**

**Lunch: 11:45 a.m.
Meeting talk: 12:15-1:00 p.m.**

**For lunch the cost is:
Members: \$15.00
Student Members: \$5.00
Non-Members: \$20.00**

For those not having lunch the talk is free

**Please contact Murray Rogers at murray.rogers@gov.sk.ca or
306-787-1932; or Michelle Hanson at
michelle.hanson@gov.sk.ca or 306-798-4211 by Friday noon,
April 12th if you are going to have lunch.**

If you want lunch please RSVP or you may go hungry.

Mudrock Reservoirs — Why Depositional Fabric & Sequence Stratigraphic Framework Matter

Abstract

Dr. Jeffrey May, AAPG Distinguished Lecturer

Mudrocks comprise any deposit with >50% of grains <62 microns in size. Composition, fabric, and texture often are extremely variable. Major influences on these parameters include tectonic setting, source terrane, basin physiography, water depth, circulation and upwelling, oxygenation, climate, eustasy, and detrital influx. Thus, mudrock character – which ultimately controls the distribution and deliverability of hydrocarbons – is anything BUT homogeneous.

Macroscopic core description, tied to stratigraphic framework and integrated with lab analyses and petrophysical interpretation, is critical in understanding variability and deciphering patterns in composition, fabric, and texture. A rich diversity of facies can be discerned. Sedimentary structures such as ripple cross laminae, graded bedding, scour surfaces, rhythmic couplets, and minute burrows to “cryptobioturbation” are common. Stratigraphic variations in these features relate directly to changing depositional conditions and sequence position.

Mudrocks do not simply fill basins passively. Competition between extrabasinal input and intrabasinal biogenic productivity creates conditions for lithologic cycles, clinof orm geometries, and water-column stratification. Benthic fauna colonize the seafloor during dysaerobic to aerobic periods, then experience “terror” during periods of mass transport. An understanding of these stratigraphic relationships requires regional correlations that commonly cover thousands of square miles.

Depositional patterns from basins of the Rocky Mountains, Gulf of Mexico, and Canada suggest that mudrock reservoirs are associated with distinct sequence stratigraphic hierarchies. Most prospective mudrock intervals develop during 2nd-order transgressions. In basins with strong extrabasinal sediment influx, the better reservoirs require load-bearing grains and typically form during either 3rd-order highstands or lowstands. By contrast, in basins dominated by intrabasinal biogenic material the best reservoirs often occur in 3rd-order condensed sections. Such units are frequently brittle, with low clay content, high TOC, and abundant microfossils. Thus, the integration of rock description and sequence framework provides better insight into lateral and vertical changes in mudrock character and reservoir targeting.

Wednesday, April 24th

**Dr. Jeffrey Hedenquist
Society of Economic Geologists Lecturer**

**Active Hydrothermal Systems and the Formation of
Copper-Gold Ore Deposits**

**Ramada Hotel, 1818 Victoria Avenue, Regina
Poplar Room**

**Lunch: 11:45 a.m.
Meeting talk: 12:15-1:00 p.m.**

**For lunch the cost is:
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Student Members: \$5.00
Non-Members: \$20.00**

For those not having lunch the talk is free

Please contact Murray Rogers at murray.rogers@gov.sk.ca or 306-787-1932; or Michelle Hanson at michelle.hanson@gov.sk.ca or 306-798-4211 by Monday noon, April 22th if you are going to have lunch.

Wednesday, May 8th

**Dr. Bruno LaFrance
Laurentian University**

***New Insights on the Tectonic Evolution of the
Sudbury Impact Structure***

**Ramada Hotel, 1818 Victoria Avenue, Regina
Poplar Room**

**Lunch: 11:45 a.m.
Meeting talk: 12:15-1:00 p.m.**

**For lunch the cost is:
Members: \$15.00
Student Members: \$5.00
Non-Members: \$20.00**

For those not having lunch the talk is free

Please contact Murray Rogers at murray.rogers@gov.sk.ca or 306-787-1932; or Michelle Hanson at michelle.hanson@gov.sk.ca or 306-798-4211 by Monday noon, May 6th if you are going to have lunch.

Announcements and Events

2013 Williston Basin Petroleum Conference (WBPC) Workshops.

The society is once again responsible for organizing two workshops (Core Workshop and Rock Mechanics) associated with the WBPC. This opportunity is a great source of revenue for the society. Thanks to the many Society members who volunteer to put this on.

9th Annual SGS/Don Kent Club Bonspiel

Thanks to Erik, Dan, Kate, Michelle, Murray, Ashlee and Tyler for organizing a successful and fun event. About 60 members and guests attended. The rink of Herb Haidl, Fran Haidl and Sean Bosman won the main event.

SGS Field Trip

Black Hills, South Dakota-- August 25th to 29th—details to follow.

APEGS Annual General Meeting

The **APEGS** Annual General Meeting will be held May 2-4 at the Hotel Saskatchewan, Regina. The theme is:

Lives and Careers, a balanced approach.

See the APEGS website for more details.

Luncheon Talk Speakers

If anyone has any ideas for luncheon speakers please contact Kim Kreis (k.kreis@sasktel.net) or Murray Rogers (murray.rogers@gov.sk.ca)

Membership

SGS membership is on a calendar year basis---Please renew your membership for 2013 if you have not already done so. Mail the form (with a cheque), bring it to the next luncheon meeting, or use the on-line form on the website at www.sgshome.ca

SGS Merchandise

The SGS has a variety of reasonably-priced merchandise, mainly clothing, that is posted on the website: www.sgshome.ca for viewing. This includes seasonal items such as very nice golf shirts, t-shirts, and hats.
