



Newsletter of the Utah Geological Association

P.O. Box 520100 – Salt Lake City, Utah 84152-0100

<http://utahgeology.org>

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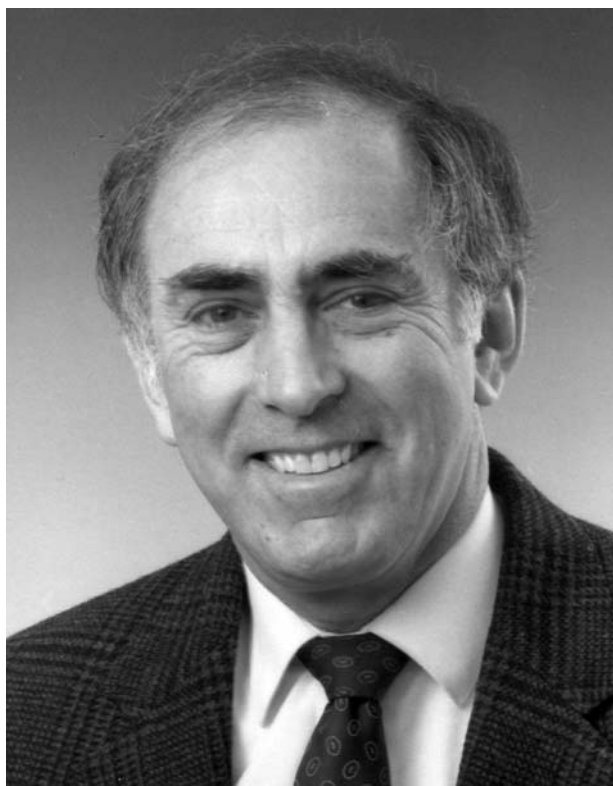
February UGA Luncheon Meeting

February 9, 2009

“Shale” Gas – Some Views Concerning Geologic Controls on “Shale” Gas Production

S. Robert Bereskin

Bereskin and Associates, Salt Lake City, Utah



Although the successful comprehension of any reservoir involves intense analysis and integration of many petroleum-related disciplines, geologic understanding of shale gas reservoirs is currently undergoing an intense learning curve. Due to historical relegation of many shale roles as hydrocarbon seals or as geochemical sources, details of basic reservoir geology are lacking but rapidly evolving. Logically, depositional mechanisms certainly can influence mudrock composition and commonly cause intense heterogeneity that complicates drilling, completion, and even basic openhole log analysis. As would be expected, the influence of these mechanisms can significantly vary across any basin and across any large acreage holding. Complex diagenetic modification also profoundly affects shale composition, which in turn, again complicates oilfield comprehension. Some of the influential diagenetic, mineralogical processes include modification by calcite, dolomite, ankerite, phosphate, pyrite, and silica— notwithstanding any clay diagenesis itself.

In terms of reservoir quality, new and old analytical methods are needed to comprehend shale reservoir potential. Currently, five shale categories appear important to deciphering reservoir characteristics: (1) calcareous (calcite, dolomite, and/or ankerite) mudstones, (2) clastic-enriched mudstones, (3) argillaceous mudstones, (4) siliceous (authigenic) mudstones, and (5) intermixed or hybridized shale reservoirs. Although many currently producing shale reservoirs are emphasizing the importance of siliceous mudstones as key to production, all such older prejudices are disappearing in the wake of new

shale discoveries. Producing mudstones in Utah are typical of these new attitudes, as calcareous mudstones and clastic-enriched varieties are taking on particular local and worldwide importance.

Biography: After an enjoyable academic career of 15 years with two California universities, Bob Bereskin subsequently spent considerable time in various aspects of the oil and gas industry. He first joined an exploration and production company in Denver, a venture concerning both frontier work in Nevada/Utah/Wyoming and developmental efforts in Utah/Wyoming. A brief stint as an Exploration Manager in Salt Lake City was then followed by 12 + years as a manager/scientist for TerraTek Inc., where he was able to investigate difficult reservoirs from around the world. During the mid 1990s, a study of Western Interior shale deposits (Lewis Shale of the San Juan Basin) was an outgrowth of much experience related to coalbed methane and to various shale deposits in other parts of North America. His current consulting efforts have largely been dedicated to extensive work with unconventional reservoirs of US and Canada, in addition to providing formal supervision of major exploration/exploitation efforts. He is also currently an Adjunct Professor at the University of Utah, responsible for teaching courses in Petroleum Geology.

***** **NEW LUNCHEON LOCATION** *****

The February luncheon meeting will be at 12:00 noon, **Monday, February 9th**, 2009, at the Department of Environmental Quality, 168 North 1950 West, Building #2, room 101. *Enter on northeast side.*

Please make your reservations (537-3300) no later than 4:00 p.m. on Thursday, February 5th.
Click to make reservations for the Luncheon Meeting by sending email to reservations@utahgeology.org.

Lunch at 12:00 noon. Meeting begins at 12:30. Cost: \$10.00 w/ reservations; \$5.00 for students. Cash or Checks only please.

President's Message

Dear UGA Members and Friends,

Optimism

A bit tough to endorse optimism given the times, but quite necessary. Quickly, street prices for diesel fuel and gasoline have increased. The growing number of work-force reductions, production cutbacks, and general restructuring happening in natural resources are grim, yet a necessary response to the economic times. Fundamentally, the United States' mineral industry and the associated technical consulting groups providing support remain very strong and will quickly rise to the task. The need to diversify the Nation's energy base and the vision of the Country embarking on a significant plan of development/redevelopment of major infrastructure provide hope that the downturn is short lived. Those who have ridden out a few cycles know that it is a given that the next one (cycle) is not far away.

Keep the faith.

Tom Faddies, UGA President

Welcome New UGA Member!

The UGA would like to give a big WELCOME to the following new Active Member and Life Member:

Luci Malin – Environmental Manager, Utah DNR Department of Oil, Gas, Mining

Richardson Allen – Research Professor, EGI, University of Utah

Stephanie Carney
2009 UGA Secretary

Geological Society of America Rocky Mountain Section

Annual Meeting 11-13 May 2009

Utah State University
Orem, Utah

The deadline to submit abstracts is February 10.

<http://www.geosociety.org/sectdiv/rockymtn/09mtg/index.htm>

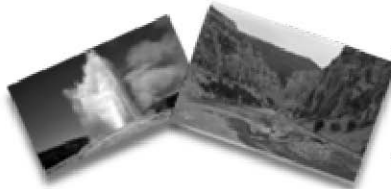


Call For Papers

2009 Wyoming Geological Association Annual Fall Field Conference

Spectacular Wyoming Geology: Going from Outcrop to Production

Conference To Be Held during the first week of August 2009 in Casper, Wyoming
with pre and post-meeting field trips to the Big Horn Basin and areas around Casper



Possible Topics include:
Heart Mountain Detachment
Sevier and Laramide Structures
Yellowstone Geology
Tight Gas Reservoirs
Uranium Deposits
Bighorn Basin
Wind River Basin
Economic Mineral Deposits
Petroleum Geology of Wyoming



For more information, contact:

Carole Black, Wyoming Geological Association, PO Box 545, Casper, WY 82602

<http://www.wyogeo.org>, info@wyogeo.org, phone 307-237-0027

Utah Chapter Association of Engineering Geologists

February 12th Monthly Meeting

AEG student night! All proceeds go to the AEG student fund.

- 1) Kevin Severson and Sonya Walsh from Weber State "Constructing a Baseline Model of Alpine Wetlands of the Uinta Mountains, Utah"
- 2) Daren Taylor Nelson, University of Utah, "Insights from mapping surficial deposits associated with the transgressive rise of Lake Bonneville in northwestern Utah"
- 3) Ryan Anderson, Tracy Kemp, Mallory Palmer, Utah State University "Preliminary Hydrologic Survey of Copper Canyon, Mexico"
- 4) Dan Hinkley, University of Utah, IGES Inc., "Estimates of Liquefaction-Induced Settlement in Salt Lake County"

Meeting place/time: ROCKY MOUNTAIN PIZZA, 3977 South Wasatch Blvd., Salt Lake City (north of Dan's grocery store in the Olympus Hills Shopping Center). **Dinner/Social 5:30 pm; presentation at 6:30 pm.**

This year please R.S.V.P. with Jessica Castleton at eolianwanderer@msn.com or 801-390-3665 by 3 pm on the day of the meeting for a reservation. The costs for the dinner meeting is as follows; students: \$4, members: \$12 w/reservations, \$13 w/out reservations, non-Members: \$14, and the talk only \$5.

The Salt Lake Section of the Society of Petroleum Engineers

The Salt Lake Section of the Society of Petroleum Engineers will host a meeting on **Thursday, February 5th** at the **Energy & Geoscience Institute (EGI)**, located at 423 Wakara Way, Suite 300, Salt Lake City, 84108. Participants should plan on gathering and paying for lunch starting at 11:30 a.m.; the presentation starts at noon. The cost is \$15.00 for members and guests, \$8.00 for students. Please RSVP to John McLennan, email: jmclennan@egi.utah.edu or (801) 587-7925 by close-of-business on Tuesday, February 3, 2009. Please try to adhere to the deadline for reservations in order to keep costs down.

SPE 2008-09 Distinguished Lecturer Series

Innovating New Technology

C. Mark Franklin, P.E.

BP

Thursday, February 5, 2009

Grand Staircase-Escalante National Monument

Cretaceous Conference

Advances in Western Interior Late Cretaceous Paleontology and Geology

<http://www.learningfromtheland.org/cretaceousconference/>

May 22-23, 2009
(with post-meeting field trips on May 24)
The Dixie Center
St. George, Utah

*In Conjunction with the
8th Conference on Fossil Resources-Partners in Paleontology*
www.8cfr.org

You are cordially invited to attend this two day conference in beautiful southern Utah to celebrate the 10th Anniversary of the Kaiparowits Basin Project (KBP), a collaborative, interdisciplinary look at the Late Cretaceous record of south-central Utah/north-central Arizona. All are encouraged to submit a paper within the scope of the meeting's theme; however, from presented papers a volume focused on the south-central Utah region will be published. Any and all paleontology-geology papers featuring the southern Utah region in whole or in part would be considered for inclusion in this volume. Papers would not have to feature new research. Well-illustrated overviews of fossil groups in stratigraphic order and updated summaries of the geologic record are also being sought to create an "atlas" of figured material and data for future researchers. Papers not selected for inclusion in the book would still be published as abstracts with the program.

Professional Geologist License Renewals

Many of us have a Utah Professional Geologist license that expires March 31st. For information on how to renew your license, go to <http://www.dopl.utah.gov/renewal.html>.

University of Utah Guy F. Atkinson Distinguished Lecture Series

Lecture will be in the basement lecture hall of the [INSCC Auditorium](#), University of Utah; 3:30 to 5:00 pm, Thursday, February 5th. Guest Speaker:

Wayne Narr
Chevron Energy Technology Company, San Ramon, CA
*Guilt and Absolution in Naturally Fractured Reservoir Characterization:
The Cause and Devilish Effect of Heterogeneity*



PALEOCLIMATES

Exploring Past Environments

Western Interior Paleontological Society's

Founders Symposium 2009

March 14-15

Saturday, 8 a.m. to 5 p.m.

Reception/Art Exhibit to follow
American Mountaineering Center,
Golden, Colorado

Sunday, 8:30 a.m. to 4 p.m.

National Center for Atmospheric Research &
National Oceanic and Atmospheric Administration
Boulder, Colorado

- Day of presentations by leading paleontologists and climate scientists followed by a catered evening reception featuring art & exhibits
- Field trips/lectures at NCAR & NOAA to see climate science in action (optional 2nd day)
- Poster session and fossil displays
- Gallery of natural science illustration
- Student discounts available
- Abstract /program book for all registrants



Learn more and register at:
wipsppc.com
or email symposium@wipsppc.com

UGA VOLUNTEERS

UGA Board

(unless otherwise indicated, area code is 801)

2009 President	Tom Faddies tomfaddies@utah.gov	538-5100
2009 President-Elect	Randy White, rwhite@sinclairoil.com	526-3734
2009 Program Chair	Mike Laine, michaellaine@utah.gov	538-3359
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2009 Secretary	Stephanie Carney stephaniecarney@utah.gov	537-3374
2009 Past-President	N. Brett Mustoe brett_mustoe@urscorp.com	904-4000

UGA Committees

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Membership		
Public Education	Paul Jewell pwjewell@mines.utah.edu	581-6636
Publications	Roger Bon rogerbon@utah.gov	537-3363
Publicity	Laura Springsteen lauraspringsteen@kennedyjenks.com	474-9615
Social/Recreation	Roger Bon rogerbon@utah.gov	537-3363

AAPG House of Delegates

Carl Kendell carl.kendell@flyingj.com	296-7721
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<http://www.utahgeology.org>

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UGA Newsletter

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