



Estimating Undiscovered Oil and Gas in the Arctic: The U.S. Geological Survey Circum-Arctic Resource Appraisal

Donald L. Gautier
Energy Resources Program
U.S. Geological Survey
Menlo Park, CA

*Note: AGS meetings will be at the BP Energy Center for 2009-2010.
Please check the website (www.alaskageology.org) and issues of the AGS newsletter for updates.
This newsletter promotes the April luncheon talk of the Alaska Geological Society,
to be held Thursday, April 15th, at the BP Energy Center.*

Among the greatest uncertainties in future energy supply and a subject of considerable environmental concern is the amount of oil and gas yet to be found in the Arctic. Using a probabilistic geology-based methodology, the U.S. Geological Survey has assessed the area north of the Arctic Circle and concluded that about 30% of the world's undiscovered gas and 13% of the world's undiscovered oil may be found there, mostly offshore under less than 500m of water. Undiscovered natural gas is three times more abundant than oil in the Arctic and is largely concentrated in Russia. Oil resources, while important to the interests of Arctic countries, are probably not sufficient to significantly shift the current geographic pattern of world oil production.

AGS Luncheon

Date & Time: Thursday, April 15th, 11:30 am – 1:00 pm

Program: Estimating Oil and Gas in the Arctic

Speaker: Donald Gautier, USGS

Place: BP Energy Center

Reservations: Please make your reservation before noon Tuesday, April 13th, 2010.

Cost: Seminar only, no meal: Free
Reserve a box lunch: \$13
Nonmember: \$15

Reserve a hot lunch: \$20
Nonmember: \$22

No reservation: add \$5 to the above
(on an "as-available" basis only)

E-mail reservations: vp@alaskageology.org
Or phone (907) 269-8673
(Ken Helmold, AGS VP)

For more information: visit the AGS website:

www.alaskageology.org

About the Author:

Donald L. Gautier is a geologist with the Energy Resources Program of the United States Geological Survey. Born in Los Angeles, he holds a Ph.D. in geology from the University of Colorado and worked for Mobil Oil Corporation before joining the USGS in 1977. He is the author of more than 200 publications, many of which concern evaluation of undiscovered oil and gas resources. Gautier leads the USGS World Energy Project and was the principal investigator for the recently-completed USGS Circum-Arctic Resource Appraisal. His residence is in Palo Alto, California.

THE PASSING OF A FORMER AGS PRESIDENT

The Tuesday March 23rd edition of the Anchorage Daily News carried an obituary for Thomas Wilson, Jr who died peacefully on March 2, 2010 in Santa Barbara, CA. Tom was a geologist for Marathon Oil based in Anchorage for almost 30 years. In the late 70's, Tom served as President of the Alaska Geological Society. Tom was one of the AGS presidents that I had extensive contact with after being transferred to Anchorage in 1972 with the USGS and becoming active in the society. What particularly impressed me working with Tom and fellow presidents like John McKeever and Alex Sisson was their concern and interest in establishing a vibrant and impartial scientific society. Although they had strong personal views about development and access, they wanted to develop a society known for its independence and quality. I think that to a person they and their successors have been successful in doing so. I remember Tom gratefully for his contribution and wish to call the society's attention to his passing.

*Contributed by Tom Miller, Scientist Emeritus, USGS,
Anchorage, AK*

From the President's Desk

Well, I took the studded tires off the car this last weekend and, as a direct result, we have snow falling in Anchorage today. My apologies to all of you who were waiting for Spring— my fault.

After the stud episode, while I was preparing for the AGS Technical Conference, Ken Papp's conference abstract really struck me. It made me think of the truly astounding advancements recently made at the Geological Materials Center and the Division of Geological & Geophysical Surveys in general. If you haven't visited the DGGS recently, either virtually via their state-of-the-art website or in person in Fairbanks, you should. You'll get a flavor of the high volume of peak quality data and reports that are bursting out of their shop. Take a glance at the DGGS representation at the 2010 AGS Technical Conference and you'll get the idea. Whenever I visit the Golden Heart City, I am so impressed by the depth of knowledge and the degree of passion for the geosciences in what may be the most under-appreciated branch of our State Government. Every component of the DGGS (the Minerals Section, the part of AVO housed in DGGS, the Energy Section, the Engineering Section, the GMC, and the Communications Section) seems to be humming on all cylinders. All of this is a testament to the integrity and professionalism of the DGGS staff and to the leadership. Great Job DGGS— you do us all proud!

-Tom

The Alaska Geological Society

LUNCHEON SCHEDULE 2009 - 2010

Updates on the web at:

<http://www.alaskageology.org>

September 2009	Thurs., Sept. 17 th , Paul O'Sullivan, Apatite to Zircon, Inc., Timing of Brooks Range Uplift and Denudation: A Summary of Fission Track Results Over the Last 25 Years.
October 2009	Thursday, Oct. 15 th , Steve Wright, Chevron, Cook Inlet Gas Shortage: Fact of Fiction?
November 2009	Thursday, Nov. 19 th , Stephen Hubbard, University of Calgary, High Relief Cliniform Development
December 2009	Thursday, Dec. 10 th , John Howell, University of Bergen, Laser Scanning and Geological Modeling.
January 2010	Thursday, Jan. 21 st , William Morris / Mark Scheihing, ConococPhillips Alaska, Inc., Tanqua Karoo, South Africa
February 2010	Thursday, Feb. 18 th , Mark Myers, State of Alaska; Geoscience, Ideology, and the Politics of Energy
March 2010	Thursday, March 18 th , Pat Druckenmiller, UAF, Mesozoic Marine Reptiles
April 2010	Thursday, April 15 th , Don Gautier, USGS, Circum-Pacific Resource Assess.
May 2010	Thursday, May 20 th , Brigitte Martini, Ormat, Geothermal Prospects of Mt. Spurr

Community Education Corner - Science Fair

By Jana DaSilva Lage

The 55th Annual Alaska Science and Engineering Fair was held on March 27th at Begich Middle School in Anchorage. Jana Lage was on hand to present Special Awards to students with projects in the Earth and Space Science and Environmental Science categories. Projects in the High School, Middle School, and Elementary Divisions were reviewed. In the end, the following 11 students from Anchorage, Eagle River, Barrow, Shishmaref, and Takotna received awards:

High School Division

Kelsey Meacham (10th Grade) *The effect of increased CO₂ emissions on coastal erosion Contributors in Alaska*

Jadelle Riski and Briana Tobin (10th Grade) *The silent killer*

Cassandra Flynn (11th Grade) *The environmental degradation of the Takotna River: How pollutants affect the ecosystem of a river*

Donald Carroll (10th Grade) *How ice and different temperatures affect the removal of oil from ocean waters*

Middle School Division

Cody Keith (7th Grade) *Earthquake*

Alexis Mason (8th Grade) *Earthquake resistance*

Elementary Division

Isabelle Libbrecht (5th Grade) *Which rocks are best for getting oil out of?*

Esau Sinnok (6th Grade) *Atmospheric impacts of residential fuels*

Kendall Johanson (3rd Grade) *How does a volcano erupt?*

Sebastian Libbrecht (2nd Grade) *Do growing plants help avoid erosion?*

The students will receive a \$25 gift card to Borders and are invited to attend our April luncheon. Some of the student posters are posted on the AGS web site under Science Fair.

AGS SCHOLARSHIP NEWS

The Don Richter Memorial Scholarship Committee is pleased to announce the selection of a candidate for 2010. The committee received many applications from Alaska and the lower 48 states for the scholarship. All defined excellent research projects in Alaska, so the decision was difficult. The committee selected Julie Elliott, a PhD candidate at the University of Alaska in Fairbanks. Julie's project, "Active Tectonics of Southeast and Southcentral Alaska Constrained by GPS" examines the collisional boundary between the Pacific plate, the southern Alaska block, and the Yakutat block. Repeated GPS measurements over several years at about 70 sites in the Chugach and Saint Elias Mountains allow Julie to identify boundaries of the blocks, key structures, and investigate how the structures accommodate relative plate motion. Julie received an Alaska Geological Society scholarship in 2009, and the Richter scholarship committee determined that she deserved continuing support. She is nearing completion of her dissertation and we anticipate several insightful and enlightening publications from Julie in the near future.

The Alaska Geological Society offers scholarship awards to graduate and undergraduate students who are conducting geoscience research projects in Alaska

including

Alaska Geological Society Scholarships
The Don Richter Memorial Scholarship



Scholarship information and applications are available online at
www.alaskageology.org

The Alaska Geological Society, Inc.
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*The Alaska Geological Society is a 501c3 nonprofit organization
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Alaska Geological Society



2010 AGS Annual Technical Conference

Friday, April 16th

**At the
UAA ConocoPhillips Science Building**



PETROLEUM CLUB OF ANCHORAGE

As part of the Petroleum Club of Anchorage's 2010 membership drive, initiation fees of \$350 will be waived March 1 to April 30 for new members in exchange for payment of 6 months of membership dues.

Per our Charter, we are especially interested in attracting O&G and mining professionals.

Please contact Tom Walsh or Pete Stokes with any questions.

Phone 272-1232

PCA Website: <http://www.petroclub.org>

Meeting Information

The **American Geological Institute** provides a comprehensive list of national and international geoscience meetings at: <http://calendar.agiweb.org>

Local Meetings:

American Water Resources Association—Alaska Section

<http://www.awra.org/state/alaska/index.html>

Alaska Geological Society

<http://www.alaskageology.org>

Lunch meetings are held monthly September through May in Anchorage. For more information, contact Jim Clough, 451-5030.

Alaska Miners Association

<http://www.alaskaminers.org/>

The Anchorage branch of the AMA holds weekly meetings at 7 AM every Friday at the Denny's on Northern Lights and Denali. They hold regular luncheon meetings in association with SME. For more information, contact the AMA office at 563-9229.

American Institute of Professional Geologists

<http://www.aipg.org>

AIPG holds regular quarterly evening Section meetings in Anchorage and Fairbanks. For more information contact Mark Lockwood, President, at Shannon & Wilson, Inc., in Fairbanks, 907-458-3142.

Chugach Gem & Mineral Society

<http://www.chugachgms.org>

CG&MS holds all meetings at the First United Methodist Church on 9th Avenue. Contact their hotline at 566-3403 for information on regular monthly business meetings, monthly potlucks, and guidebook sales, including the new Alaska Rockhound Guidebook.

Geophysical Society of Alaska

<http://gsa.seq.org/>

Luncheon meetings are held monthly September through May at the ConocoPhillips Tower. For more information, contact Phil Rorison, 265-6321

Society of Petroleum Engineers

<http://alaska.spe.org/>

For more information, contact Jack Hartz at 375-8239.

UAS Environmental Science Program

<http://www.uas.alaska.edu/envs>

National Association of Geology Teachers (NAGT)

<http://www.nagt>

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The Alaska Geological Society, Inc.
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On the web at: <http://www.alaskageology.org>

The Alaska Geological Society is an organization which seeks to promote interest in and understanding of Geology and the related Earth Sciences, and to provide a common organization for those individuals interested in geology and the related Earth Sciences.

This newsletter is the monthly (September-May) publication of the Alaska Geological Society, Inc. Number of newsletters/month: ~300

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MEMBERSHIP INFORMATION

AGS annual memberships expire November 1. The annual membership fee is \$15/year. You may download a membership application from the AGS website and return it at a luncheon meeting, or mail it to the address above.

Contact membership coordinator Mark Olson with changes or updates (e-mail: gregory.c.wilson@conocophillips.com; phone: 907-263-4690)

All AGS publications are now available for on-line purchase on our website. Check to see the complete catalogue.
<http://www.alaskageology.org/publications>

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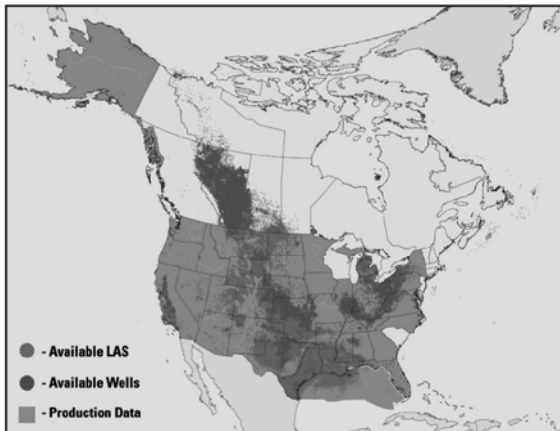
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Note: e-mail addresses now contain "at" instead of "@" Please change to @ when typing.

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