



Geophysical Society of Houston

VOL. 36, NO. 2

NEWSLETTER

SEPTEMBER 2001



Please join us for the

2001 Icebreaker!

When: **September 6**

Where: **HESS Building @ 5430 Westheimer**

Time: **5:00 p.m. - 7:00 p.m.**

For reservations contact the GSH Office at:

Phone: 713-785-6403 • Fax: 713-785-0553 • E-Mail: reservations@hgs.org

Advance reservations \$12, At the door \$15.

Technical Luncheon

Where: HESS Building
When: September 18th
Time: 11:30am
Cost: \$20

ENERGY PROFESSIONALS: HOW CAN WE EDUCATE POLICY MAKERS ABOUT U.S. ENERGY ISSUES?

Ben D. Hare
Cazador Enterprises, LLC.
Houston, Texas

By all projections, the ability of the United States natural gas supply to meet demand will be strongly tested over the next ten to twenty years. Increasing use of natural gas for electricity generation accounts for much of the strain on natural gas supplies. A national energy policy needs to be developed which takes into account the role of conservation, nuclear energy, coal, and renewable energy to ensure supply meets demand. Adoption of the Kyoto Protocols by the U. S. would further exacerbate this country's

ability to meet demand.

Because of the importance of these issues to the careers of its membership, the American Association of Petroleum Geologists decided to take an active role in educating and informing policy makers in Congress and federal agencies about the technical and scientific facts surrounding U. S. energy supplies and resources. In both 2000 and 2001, the Presidents of the AAPG addressed Con-

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Reminder SEG 2001

September 9-14
San Antonio, Texas

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GEOPHYSICAL SOCIETY OF HOUSTON

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email: reservations@hgs.org • website - <http://www.seg.org/sections/gsh/gshhome.html>

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Editor's Note

To insure your information reaches the GSH society members in a timely manner it must appear in the in the appropriate newsletter issue. Please note the following deadlines and plan your function's publicity strategy accordingly. Items must be received on or before the corresponding deadline date. Materials may be sent to patty@diamondg.com or faxed to 713/783-9780. If you have any questions please call Patty Cardwell at 713/783-7837.

2000 GSH Newsletter Deadlines

Issue October 2001

Deadline .. September 7, 2001

Join the Geophysical Auxiliary of Houston!

The Geophysical Auxiliary of Houston invites the wife of any present or past member of the GSH or SEG, and women members of the GSH or SEG to join us for our 2001-2002 events.

The first luncheon of the year will be held on Tuesday, October 2, 2001, at the Houston Racket Club, 10709 Memorial Drive. The program will be presented by delightful storyteller, Paula Scudday, who will introduce us to Loretta Young.

Yearly dues are only \$15.00. Please call Membership Chairman Marinell Williams at 713-467-4517 or Georgeann Massell at 281-353-7894 for information on how to join. For more information on programs scheduled for the rest of the year, please call Kathi Hilterman at 713-467-2599.

The GAH encourages social relationships among its members, donates money to the GSH Scholarship Fund, and assists the GSH in manner possible.

"Strangers are just friends waiting to happen." We look forward to having you join us!

GeoEvents Calendar

Make reservations by e-mail at reservations@hgs.org and include your member number (found on Bulletin mailing label), or use the phone reservation system at 713/917-0218.

Reservation Codes

Use these codes to make voice mail meeting reservations:

Technical Luncheon	601
Data Processing SIG	602
Interpretation SIG	603
Reservoir SIG	604
Potential Fields SIG	605
Environmental Applications SIG	606
Breakfast	607

The GSH would like to thank the following companies for their support as corporate members:

ExxonMobil

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Corporate Underwriter

Thank you for your supporting the GSH!

For information on how to become a corporate member or to endow a scholarship with an organization's name please contact Pat Starich (281) 423-5036 or the GSH office at (713) 785-6403.

gressional Committees.

On two separate occasions in 2001, members of the AAPG Committee on Resource Evaluation addressed the U. S. House Committee on Energy and Mineral Resources. The first of these testimonies addressed:

(1) the importance of accurate resource estimates for formulating energy policy;

(2) the difference between estimated resources and proven reserves; and

(3) how estimated resources are converted to reserves and hence to "supply". The second testimony addressed Outer Continental Shelf issues, specifically: (1) the U. S. has a sizeable estimated gas resource in the OCS; (2) both the Atlantic OCS and the eastern Gulf of Mexico have demonstrated trapped gas accumulations; and (3) gas is currently being produced in the Canadian Atlantic OCS and transported to New England.

In addition to congressional testimony, the AAPG Division of Professional Affairs Committee on Government Affairs has written a number of

position papers on energy issues. These have been distributed to members of Congress and various agencies. In May, the AAPG sponsored the inaugural AAPG President's Conference on National Issues: A Summit on U. S. Energy Policy in Washington, D. C. Over one hundred Congressional staffers and agency officials attended the Summit.

BEN D. HARE
CAZADOR ENTERPRISES, LLC

Ben D. Hare earned a Bachelor of Science Degree in Geology from Lamar University and Master of Science and Ph. D. degrees from the University of Oklahoma. He joined Atlantic Richfield's international exploration group in 1973 in Los Angeles, working new ventures projects throughout the world, including Europe, South America, Asia, and the Middle East. Subsequently, he worked in the Wyoming Overthrust, Alaska, California, Permian Basin, and Mid-Continent areas for ARCO.

In 1981, he left ARCO to work with independent oil companies involved in exploration of all of the major geological provinces in the United States.

In 1989, he rejoined ARCO as Manager of South Alaska Exploration. When Vastar Resources, Inc. was spun off from ARCO in 1994, Ben was involved in organizing the new company and served as Onshore U. S. Exploration Manager. Most recently, he was the Chief Geologist for Vastar. After the purchase of Vastar by BP in 2000, Ben established his own oil and gas exploration company, Cazador Enterprises, LLC in Houston, Texas.

Ben is a Certified Petroleum Geologist of the American Association of Petroleum Geologists, and recently completed six years as Chairman of the AAPG Committee on Resource Evaluation. He is also a member of the Houston Geological Society, the Society of Independent Professional Earth Scientists, and the Society of Professional Well Log Analysts. He is a Past President of the Alaska Geological Society, and past Chairman of the Alumni Advisory Council to the School of Geology and Geophysics at the University of Oklahoma. In 2001, he received the AAPG Distinguished Service Award.

POTENTIAL FIELDS SIG ANNOUNCEMENT

'Ultimate Resolution' Satellite Gravity: A New Hydrocarbon Screening Tool for Continental Margins

By J Derek Fairhead, GETECH Ltd / University of Leeds

WHERE: HESS building, 5430 Westheimer, Houston
DATE: Thursday, September 20, 2001
TIME: 5:30 Social Hour;
6:30 Dinner;
7:30 Presentation
COST: \$23.00

Contact:

Afif Saad, Chair - GSH Potential Fields Group, at 281-342-8575 (AfifHSaad@netscape.net) or Bob Van Nieuwenhuise, Co-Chair at 281-679-2208

(Bob.VanNieuwenhuise@pgs.com)

by Tuesday, September 18, 2001 for reservations. E-mail is best because we can confirm your reservation. Please HONOR your reservation! We must bill no-shows!

Abstract:

Recent discussions on the GRVMAG server have focused on potential new satellite altimeter missions to improve the gravity resolution of the Earth's oceans. This talk focuses on what resolution can be achieved with the current data and how they are being used to high-grade hydrocarbon prospects over the deep-water sections of continental margins where seismic data are sparse or expensive.

In the mid to late 1990's Sandwell and Smith generated impressive gravity maps of the oceans using the geodetic mission satellite data. Despite the spatial coverage of orbital tracks being ~3

km, it was surprising that the overall resolution of these new data were no better than ~25 km at ~6 mGal (full wavelength used throughout). Could better resolution be achieved?

GETECH found that even after improving and refining processing procedures only resolutions of between 15 and 20 km at 5 mGal were possible, using the pre-picked agency data, as used by Sandwell and Smith. The only option left to significantly improve the resolution was to repick (or retrack) the sea surface heights from the 'raw' waveform radar data. This idea was based on the large noise envelope seen on repeat mission (stacked) data.

A consortium of oil companies and NIMA funded a study to test out the idea. The raw radar waveforms from ERS1 and GeoSat geodetic missions were obtained and used over a test area in the

Potential Fields continued on page 5

Gulf of Mexico. The radar waveforms were re-picked using techniques similar to those used in seismic picking. This involves waveform matching a model waveform to the individual waveforms, which are located every 350 m (ERS1) and 700 m (GeoSat) along track. Application of this technique significantly reduced the ERS1 along-track noise particularly for wavelengths below 50 km. This was not the case for the GeoSat waveform data where re-picking did not improve the resolution. Comparison of ERS1 agency picked data showed that white noise commenced below 25 km whereas the re-picked data commenced below 10 km.

To convert the re-picked sea surface heights to their gravity equivalent, GETECH used the 'geoid to gravity' method rather than the 'slopes to gravity' method employed by Sandwell and Smith. We were able to show that at short wavelengths (below 50km) there

are major resolution limitations in the 'slopes to gravity' method that are not present in the 'geoid to gravity' method. Independent resolution assessments by two of the consortium sponsors, with access to ground truth marine and seabed gravity data, confirmed our resolution claim of 10 km at ~3 mGal.

The method has now been applied to the whole of the Gulf of Mexico and offshore northern South America and we are able to demonstrate the resolution claims and the level of resolution enhancement that can be achieved. Removal of the 20 to 30 km noise envelope with amplitude SD of 5.7 mGal allows subtle anomalies at or greater than 50 km wavelength to be seen within the deep water of the Gulf which could relate to sea floor spreading structures as well as the anomalies of ~10 km wavelength related to possible continental margin fractures emanating from the Chicxulub impact crater, Yucatan Peninsular.

Biography:

Prof Dr James Derek Fairhead is founder and Managing Director of Geophysical Exploration Technology Ltd (GETECH) and Prof. of Applied Geophysics at the School of Earth Sciences, University of Leeds, UK.

GETECH is a global gravity and magnetic service company, with offices in Leeds and Houston. It holds the world largest archive of potential field data and provides data, databasing services and integrated interpretation solutions. Its R & D specialises into satellite gravity technology (see TLE Aug 2001; and First Break Sept 2001), interpretation theory (Extended Euler see Geophysics May/June 2001 page 814) and the development of new hydrocarbon screening tools for the deep-water parts of continental margins.

Prof Fairhead was a recipient of the SEG 'Special Commendation' award in 1999.

2001 GSH TENNIS TOURNAMENT

FRIDAY, OCTOBER 5, 2001 at 12:00 NOON

Chancellors Racquet Club
6535 Dumfries
Houston 77096



Play will begin promptly at 1:00 pm and conclude by 5:00pm. Lunch will begin serving at 11:30am. Cold drinks will be available and we will have a keg for the COOLING DOWN TIME.

This will be a half day A and B Scramble Tournament. A player will play with all other players in his group. Ladies will be teamed with partners in the A or B groups as they choose. In addition to TROPHIES, there will be a drawing for a generous group of DOOR PRIZES.

To ensure the proper amount of court space, food and drinks, complete and send in the entry form as soon as possible, but no later than October 1, 2001. We have more room for players and encourage you to contact your associates to participate in the tournament. We are again inviting players in the Geological Society to join us so as to have more players and more fun.

For more information call Bill Steiner 713/789-7250 or Joe Jones 281/438-5626

2001 GSH TENNIS TOURNAMENT ENTRY FORM

NAME _____

Phone No. _____ Company _____

FlightPreferred: A _____ B _____ Ladies _____

Make Checks Payable to: GSH Tennis Tournament
MAIL TO: Joe Jones 3802 Pecan Valley Drive, Missouri City, Tx. 77459

HGS/GSH
Shrimp Peel
Saturday, November 3, 2001

5:30 p.m. – 10:00 p.m.



Sam Houston Race Park

7575 N. Sam Houston Pkwy. West
(Beltway 8 between Hwy 290 & I-45N)

Tickets \$25.00 Advance / \$35.00 at the Door

- Advance ticket sales through October 26
- Tickets mailed to you beginning October 3
- Event held on the Infield (weather permitting)
- No refunds

2001 Shrimp Peel Ticket Order Form

Name _____
Company _____
Address _____
Phone E-mail _____
Number of tickets _____

Make checks payable to HGS/GSH Shrimp Peel

Mail to: Subsurface Consultants & Associates / Attn : Lee Shelton
2500 Tanglewilde, Suite 120 * Houston, Texas 77063
For more information call 713-789-2444 or e-mail: LShelton@scacompanies.com

Shrimp • Beer & Beverages • Horse Races • Live Music

Membership Report

New members—Active

Joseph Gagliardi
Kathy Hogenson
Paul Schillmoller

Associate

Erin Kock

Total membership- 1816

Missing in action (10/10/2000)

Paul Abbott
Vester Buxton
Amr El-Bakry
Cole Harris
Mohammed Al-Otaibi
Bart Byrd
Timothy Elfrod
William Harrison
Amar Amancharla
Randall Byrne
Francesca Fazzari
Paul Harrison
Alan Anderson
Horace Calvert
Douglas Fenton
Tim Hartnett
Christine Ando
Steven Campbell
Lyndon Findley
Siegbert Hentschel

Hillar Anton
Robert Carter
Kosta Fiongos
Martha Hewell
John Arenson
Joe Caruana
Hans Fischl
Winston Hey
Brad Bacon
Raymond Casserly
Steven Fishburn
Wai-Ching Ho
Zane Baker
M. Castleberg
Michael Fontenot
Bob Holt
Greg Ball
Qiang Chen
John Foster
Hann-Chen Huang
Thomas Barber
Jeffery Chen
Paul Foster
Daniel Hughes
Kestutis Barcas
Kevin Chesser
Warren Franz
William Hygh
Nicholas Battaglino
Jeff Chestnut
Mark Frishman
Gregg Johngarlo

Christian Beckett
Dezhi Chu
Albert Frisillo
Tony Johns
Wallace Beckham
E. Claunch
Brenda Frost
Delmer Johnson
Kim Bennets
Bernie Clinton
Alexandra Gajewski
Elizabeth Johnson
Alan Berry
Philip Coholich
Ray Gedaly
Gregory Johnson
Mark Betts
Carmen Comis
Ingo Geldmacher
Ralph Johnson
Giles Bitoun
John Cravotta
Deveral George
Gary Jones
Dennis Bones
Alfred Danforth
John Gillhooly
Wendy Jones
Debra Bones
Charles Darden
Neal Goins
Scott Jones

Inta Bozkurt
Peter Denny
Augusta Golian
Mary Jones
Peter Bridge
John Desantis
Betty Green
Patrick Jonklaas
Rebecca Brignac
John DeWildt
Laurie Green
Dana Jurick
David Brookes
Zoe Dill
Mu Guo
Kar Jyotiranjana
William Brslik
Howard Dingman
Mahong Guo
Steven Kalavity
David Buddrus
Robert Dodge
Manuela Gurtner
Peter Kane
Utz Buford
Gunnar Ekman
Samuel Guy
Bipin Kapadia
Scott Burns
Amr El-Bakry
Stephen Ha
Surrinder Kapoor

Scenes from the 2001 BBQ



"PASSING THE SHOVEL"
JOHN SUMNER, PRESIDENT
2000-2001; DAVE AGARWAL,
PRESIDENT 2001-2002



DAVID WAIBEL, TRACY
GRESH, GEORGE LAUHOFF,
LISA VENSON, KARL SEIBER



BENEGENE KRING,
CHERYL STEVENS



NEWOFF - FROM LEFT TO
RIGHT: DAVE AGARWAL,
PRESIDENT; JIM SHUELKE,
FIRST V.P.; DAN EBROM,
PRESIDENT ELECT;
RON WARD, SECOND V.P.;
JIM WOOD, SECRETARY;
FRANK LEVIN, EDITOR



STEVE DANBOM, SECRETARY
2000-2001,
SHANE COPERUDE,
TREASURER 2000-2001



TINA JOEHN, MARC
LAWRENCE, GEORGE
LAUHOFF

SEPTEMBER 2001

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