

# GEOPHYSICAL SOCIETY OF KANSAS

## PRESIDENT'S MESSAGE

### In this issue:

<b>Program Chairman's Column</b>	1
<b>Technical Program Abstract</b>	2
<b>Note from the Editor</b>	3
<b>GSK Membership</b>	3
<b>GSK Council</b>	3
<b>GSK Committees</b>	3
<b>Crew Tracker</b>	4
<b>Professional Directory</b>	6
<b>GSK New Members</b>	10
<b>GSK Advertising</b>	10

Your society continues to grow steadily, with membership now crossing the 40 member threshold. Much is happening behind the scenes, and you'll begin to see the fruits of labor in our Technical Programs and other Society functions in the near future.

Our current bylaws call for an election of officers during April, with the placement of new officers in May at our Annual Meeting. The Council has met to discuss this important issue, and we believe it may be in the best interest of the Society to continue with an extension of the present Council officers, either for a full year beyond May 2006, or alternately, until December 2006.

I plan to circulate a memoran-

dum to all voting members in the very near future covering this, as well as other somewhat related issues, including potential bylaws changes. With the membership's approval, we would likely go to a 2-year election cycle and a fiscal year-end of December 31, as opposed to our present June 30. I would emphasize that no changes can take place without member approval, but we will present ideas which we believe will bring positive, forward-looking change to the Society.

We are also in ongoing discussions related to the potential for the issuance of either scholarships or grants to worthy student development or research causes. As of yearend 2005, we had approximately \$2,000 in the bank, not bad considering

we initiated the account in September 2005. Due primarily to our loyal advertisers, coupled with memberships, we are presently approaching a balance of about \$4,000. Our Council is deeply appreciative of this continuing support, and we pledge efficient stewardship of all funds placed under our management.

If at all possible, please attend our upcoming Technical Programs, as I believe Rick Saenger has done an excellent job of securing interesting and talented speakers and subject matter. My kudos also to all our Council members, each of whom has done a great job in advancing this Society's goals and objectives.

## Program Chairman's Column

Due to scheduling of the North American Prospect Expo (NAPE), in Houston on Feb. 2nd and 3rd, and the anticipated poor attendance resulting from the conflict, we decided to try to reschedule Dr. Mavko's Lecture from Feb. 3rd to a later date. At this writing Dr. Mavko has suggested a date in late May. We will inform our membership when the date is confirmed.

We are presently scheduled for the following lectures:

- ◆ On March 23rd, James Bogardus (PGS) will present "HD3D™ from Theory to Application: A 3D Seismic Acquisition Case Study from the Wichita Mountain Front, Oklahoma."
- ◆ On April 13th, Dr. Arcangeio Sena, (Veritas, Houston) will present "Case Study: SAGO Steam Flood Project Using Simultaneous Inversion of Pre-Stack Seismic Data."

Both are joint meetings with the Kansas Geological Society.

### Joint Technical Sessions with the Kansas Geological Society

- In order to reach a larger audience, we will be regularly hosting joint technical sessions with our local geological society. See more details inside.
- Web Address: <http://gsk.sseg.org>

## Program Chairman's Column—cont'd

The Kansas Geological Society Technical Program for the coming months includes the following speakers:

- March 9 Mike Everhart, Adjunct Curator of Paleontology, Sternberg Museum, "Oceans of Kansas, the Rest of the Story."
- March 16 Dr. Jay Price, WSU, Will discuss his new book on Oilhill and the El Dorado Field."
- April 6 Merle Grabhorn, Newfield Exploration "The Opening of the Mid-Continent: A Pictorial History."
- April 20 Dr. Marvin Carlson, Nebr. Geological Survey "Reinterpreting Nebraska's structural framework—New Geometry, New Exploration, New Reservoirs." This paper co-authored by Bill Sydow.

### Other Section Events

Geophysical Society of Oklahoma City (<http://gsoc.seg.org>)

- April 18 Continuing Education Event: 4D-9C Seismic for Tight Gas, Kansas 3D Case Histories, Inversion Case Histories. More speakers to be announced.

For additional information on the KGS technical program, please contact Bob Cowdery at [sbc@southwind.net](mailto:sbc@southwind.net). We greatly appreciate Bob's close coordination with our society and his willingness to help our exploration community. .

Please continue to support our societies with your attendance at the technical sessions. We hope that you find the papers interesting and intellectually stimulating.

*Rick Saenger*



Kansas Geological Survey on location with the IVI Minivib

## Technical Program Abstract

### "HD3D™ from Theory to Application: A 3D Seismic Acquisition Case Study from the Wichita Mountain Front, Oklahoma"

*James W. Bogardus  
PGS Onshore, Inc., Houston, Texas*

The benefits of high trace density 3D (HD3D™) seismic acquisition have been touted for years. Trace density can be increased by raising fold or holding fold constant and reducing bin size. This presentation reviews the theoretical implications of high density acquisition, which suggest that high density acquisition should result in improvements to signal to noise ratio, frequency retention, and steep dip preservation

through acquisition designs that result in high CMP multiplicity and finer spatial sampling.

PGS Onshore has acquired multi-client datasets along the Wichita Mountain Front, SW Oklahoma, since 1998. Acquisition parameters were modified through time to reflect state of the art acquisition technology. During the second half of the presentation, 3D visualization software will be utilized to demonstrate how the theory described above translates into practice. Three 3D volumes are

reviewed. The first comparison looks at the effect of fold in datasets with identical spatial sampling (82.5 ft. bins). The third dataset shows the effect of increased trace density through finer spatial sampling (55 ft. bins). Improvements to data quality are as predicted by theory. However, theory and equations don't quantify the value lost by inadequate structural and stratigraphic imaging. The interpretive implications are demonstrated *a priori*.



"... theory and equations don't quantify the value lost by inadequate structural and stratigraphic imaging."



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## Note from the Editor

It is our hope that these early editions of the GSK newsletter have been informative and provided the kinds of communication the membership feel is a benefit professionally as well a pleasure to read. Cycles in our industry are never so obvious as at the extremes. Right now we are benefiting from a boom and professional time is at a premium. More geophysics is currently going on in Kansas than most in our industry can remember. With that level of activity comes a bounty of success stories where geophysics has played a key role in extending a field or discovering that “bump” that would have never been found with infill or grid drilling alone. Geophysical success stories are always of interest to our cohorts and your society would like to bring some of these to your colleagues.

It has been a routine part of this newsletter to include a technical summary of the presentations that are to be or have been made at one of our Society meetings. Those articles have stimulated a lot of discussion and interesting interplay with members of our geoscience community. On a trial basis we would like to invite articles on geophysics successes from our corner of the world, especially short case studies where data and interpretations can be presented.

Articles submitted for publication in the newsletter will be reviewed and the author provided as much manuscript preparation assistance as possible. Once publishable, we will get your work into our newsletter as soon as space is available. It is our hope that this newsletter technical series of publications will meet with the overwhelming approval of our membership. Based on how well it is received and the quality of the articles, an attempt might be made to produce a yearly compilation of expanded and refereed versions of the newsletter articles. This yearly series will represent the best of the newsletter technical articles.

Hopefully, you, the membership will find this venue advantageous and take the opportunity to showcase the excellent geophysics currently going on in our area. Rarely does the outstanding work of our community of scientists and technical service providers live beyond the report or boardroom presentation where it is rendered down to a drill location on a map.

*Rick Miller*

## 2005-06 Council

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## Membership in GSK

Joining GSK can be accomplished either by requesting an application form from Membership chairman Mike Crouch at [segmike@mlcinc.kscoxmail.com](mailto:segmike@mlcinc.kscoxmail.com), or 316-264-4334, or by downloading an electronic form at <http://gsk.ks.org> and submitting the form according to instructions provided on the form.

<u>Membership Classifications</u>	<u>Annual Fees</u>
<b>Active</b>	<b>\$25</b>
<b>Associate</b>	<b>\$25</b>
<b>Student</b>	<b>\$10</b>



# The Crew Tracker As of March 1, 2006

Provided by Acquisition Company Representatives



System IV sensor planting guide.

Acquisition Company	Location (County)	Instruments
Lockhart Geophysical – Crew 1	Russell/Ellsworth, KS	GDAPS IV
Lockhart Geophysical – Crew 2	Russell , KS	GDAPS IV
Lockhart Geophysical – Crew 3	Edwards, CO	ARAM/ARIES
Lockhart Geophysical – Crew 4	Sumner , KS	ARAM/ARIES
Paragon Geophysical – Crew 106	Yuma, CO	System IV
Paragon Geophysical – Crew 134	Kay, OK	System II
Paragon Geophysical – Crew 205	Barton, KS	System II
PGS Onshore – Crew 300	Altus, OK	Sercel 408
PGS Onshore – Crew 320	Mineral Wells, TX	Sercel 408
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# Professional Directory

 <p><b>JERRY LAWSON</b> <i>Operations Manager</i></p> <hr/> <p>PGS Onshore, Inc. 15150 Memorial Drive Houston, Texas 77079 USA</p> <p>Tel: (281) 509-8000 Fax: (281) 509-8088 Direct: (281) 509-8238 Mobile: (713) 898-5576</p> <p>E-mail: <a href="mailto:jerry.lawson@pgs.com">jerry.lawson@pgs.com</a> <a href="http://www.pgs.com">www.pgs.com</a></p>	 <p><b>Rick Steineck</b> Senior Processing Geophysicist <a href="mailto:rsteineck@echogeo.com">rsteineck@echogeo.com</a></p> <p>1999 Broadway, Suite 3100 Denver, CO 80202 303.893.9014 - 303.893.4050 (fax) <a href="mailto:denver@echogeo.com">denver@echogeo.com</a></p> <p>15995 N. Barkers Landing, Suite 110 Houston, TX 77079 281.759.3246 - 281.597.9989 (fax) <a href="mailto:houston@echogeo.com">houston@echogeo.com</a></p>
 <p><b>JOE ROSAS</b> <i>Manager Multi Client Services, Mid Continent</i></p> <hr/> <p>PGS Onshore, Inc. 15150 Memorial Drive Houston, Texas 77079 USA</p> <p>Tel: (281) 509-8000 Fax: (281) 509-8088 Direct: (281) 509-8325 Mobile: (832) 715-7966</p> <p>E-mail: <a href="mailto:joe.rosas@pgs.com">joe.rosas@pgs.com</a> <a href="http://www.pgs.com">www.pgs.com</a></p>	 <p><b>Bill Schorger</b> SENIOR GEOPHYSICIST <a href="mailto:bschorger@sterlingseismic.com">bschorger@sterlingseismic.com</a></p> <p>8122 Southpark Lane, Suite 207 Littleton, Colorado 80120 Tel: 303.347.9011 Fax: 303.347.9036 Cell: 303.726.2423</p> <p><a href="http://www.sterlingseismic.com">www.sterlingseismic.com</a></p>

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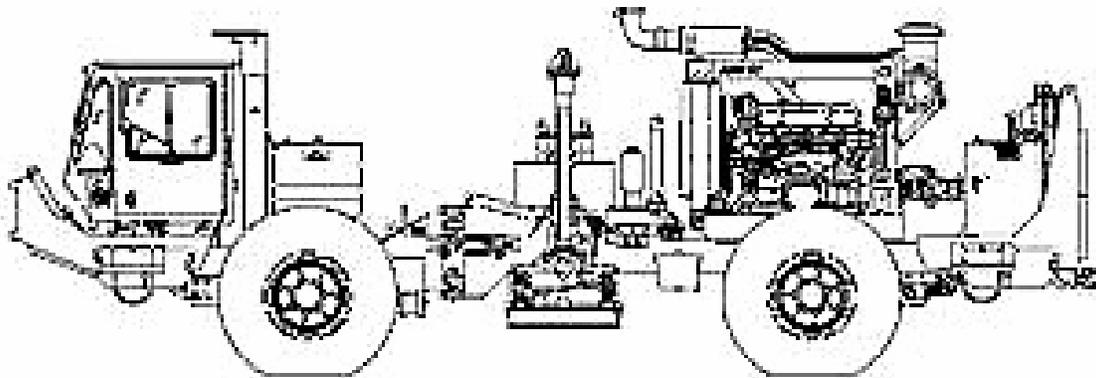
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Geophysical Society of Kansas

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## OUR MISSION:

To provide our members a quality venue for disseminating geophysically focused information pertinent to Kansas and surrounding regions.

We also seek to advance the geosciences by providing members opportunities to increase the understanding of geophysical principles and practice.

If you are aware of speakers / topics which would benefit members, let us know, and we'll pursue.

Additionally, we are actively seeking research papers and results to share with our audience. If you are interested in publishing your work, please contact Editor Rick Miller.

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We're on the web. Check us out at <http://gskseg.org>

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### New Members

The Geophysical Society of Kansas is pleased to welcome the following new members:

Name	Affiliation	Location
Lisa D'Ambrosia	Lockhart Geophysical	Denver, CO
Bill Miller	Consultant	Littleton, CO
Daniel Winn	Tidelands Geophysical Corp.	Plano, TX
Russell Opfer	Lockhart Geophysical	Denver, CO
Jon M. Callen	Edmiston Oil Company	Wichita, KS
Rich Van Dok	Western Geco	Denver, CO

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