



# Los Angeles Basin Geological Society Newsletter

**February Meeting: Thursday, February 27, 2003**

**Dr BJÖRN N.P. PAULSSON, Paulsson Geophysical, Will Speak on the  
3D Massive VSP at Wilmington Oil Field, Long Beach Unit – A Technical Review**

## Speaker Synopsis / Abstract

Dr BJÖRN PAULSSON received his Ph.D. in Engineering Geophysics from University of California, Berkeley in 1983. He was a Staff Scientist with Lawrence Berkeley Laboratory from 1977 to 1981 working on characterization and monitoring of rock properties related to storage of high-level nuclear waste. At LBL he developed cross well seismic methods for site characterization and monitoring of changes in rock properties resulting from storage of hot, high-level nuclear waste. He was a Senior Research Geophysicist with Chevron Petroleum Technology Company in La Habra, California where he worked from 1984 to 1997.

In 1995 he formed Paulsson Geophysical Services, Inc. (P/GSI) to develop and commercialize borehole seismology for oil and gas reservoir characterization and monitoring.

Dr. Paulsson's work includes hardware development, data acquisition, and data processing and interpretation research for 3D/4D VSP, Reverse VSP, Cross Well and Single Well Seismology and their applications to reservoir management. In 1990 he received Chevron's Chairman's award for his work on developing a downhole hydraulic vibrator for Cross Well Seismology, Reverse VSP and Single Well reflection applications. He has been granted eight patents on downhole seismic source and borehole 3C clamped receiver array technologies. He was a Society of Petroleum Engineers Distinguished Lecturer in 1992-1993 and he served as the Chairman of the Development and Production Committee of the Society of Exploration Geophysicists from 1992 to 1994. He has more than 30 publications in the subject

borehole seismology. He is a member of SEG, SPE, AGU, EAEG, and ISRM.

A new high-resolution seismic imaging technology recently imaged part of the Wilmington Oil Field, which is the third largest oil field in the continental United States. The field is located on a thirteen-mile long and three-mile wide asymmetrical anticline that extends from onshore San Pedro to offshore Seal Beach. Vertical faults divide the field and production stems mainly from five major turbidite sandstone intervals ranging from 2,000 feet to 11,000 feet in depth.

In February 2002, Paulsson/Geophysical Services, Inc. completed a high-resolution 3D Massive VSP seismic survey of the producing reservoirs and deeper exploration prospects. An 80 level three-component borehole array was used to acquire approximately 30,000 shots from two islands. Five wells (vertical and deviated) were instrumented. An initial velocity model was constructed. Reflection tomographic methods are in progress. The processed up-going wave field was pre-stack depth migrated providing images of the LBU directly in depth. Converting the 3D VSP image back into the time domain shows frequencies up to 120 Hz, which is a great improvement in resolution over traditional surface seismic data in that area.

*This technical review will discuss the acquisition and processing of the 3D VSP dataset. Some images will be made available on P/GSI website prior to the meeting at [www.paulsson.com](http://www.paulsson.com).*

Contact Björn at:  
Phone 562-697-9711 x 101  
E-mail: [bjorn.paulsson@paulsson.com](mailto:bjorn.paulsson@paulsson.com)

## Time, Place, And Cost

### Time:

Thursday, February 27, 2003

### Meeting Agenda

Lunch Served: 11:30 AM to 12:00PM  
Announcements: 11:50 AM to 12:05 PM  
Guest Speaker: 12:05 PM to 12:45 PM

### Place:

The Grand at Willow Street Conference Center located at 4101 East Willow Street, Long Beach, CA. (562-426-0555). Take Lakewood Boulevard south from the San Diego Freeway (405), turn west onto Willow Street and turn right onto Grand Avenue at the sign for the Center. Park free in the garage structure.

### Cost:

Lunch and Speaker: \$17.00 with reservations  
\$20.00 without reservations  
Student: \$ 6.00 (Lunch and Speaker)

### Reservations Are Essential

Please note the change in reservation policy and make your reservations with Mike Mills by the Tuesday before the meeting. Phone: (714) 220-9138 or e-mail Mike at [MILLSLABGS@HOTMAIL.COM](mailto:MILLSLABGS@HOTMAIL.COM)

### Luncheon Meeting Student Bonus

The first five (5) students to show up for the luncheon meeting will have their meal costs paid for courtesy of Mike Mills and Pacific Soils Engineering and the LABGS. In addition, all students attending the LABGS meeting will receive a free SEPM publication courtesy of the Pacific Section SEPM.

**DAVID B. DEL MAR**  
Consulting Petroleum Geologist  
California Registered Geologist #634

Development – Thermal EOR – Property Reviews

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Lunch meetings are held at *The Grand at Willow Street Conference Center*. Lunch starts at 11:30 AM

## 2003 Winter / Spring Schedule

February 27, 2003

**Bjorn Paulsson / Karen Blake** – *Imaging the Wilmington Oil Field Structure*

March 27, 2003

**Azzam Alwash** – *Saddam Hussein's Draining of the Tigris and Euphrates Rivers for Strategic Reasons and What's Involved in Future Restoration of its Marshes.*

April 24, 2003

**Jose Borrero** – *Tsunami Potential and Risk Along the Southern California Coast*

May 22, 2003

**PSAAPG / WRSPE Convention - Long Beach Hilton, with 3 days of technical sessions**

June 26, 2003

TBA

## Announcements / Information

### AAPG House of Delegates Needed

Two of our four *House of Delegates* to AAPG are open. If you are a national AAPG active member and are interested in filling this vital position please contact Dalton Lockman before March 1, 2003. These are vital positions to the leadership for the AAPG, and for the future of the LABGS.

### The LABGS.org Web Site Up and Running!

The LABGS is finally moving into the digital era. On November 21, 2002, we retired our rock tablet chisels and ignited our web site. This web site may be accessed at [www.labgs.org](http://www.labgs.org). It will be a great place to keep informed over what is going on in the LABGS. The web site will not replace our newsletter but will provide a place to retrieve past issues. As all web sites we will continually change it to meet the needs of our members and friends. If you haven't done so already, you will discover that you can access our newsletter, make reservations for the lunch meeting, contact an LABGS officer, or

## LABGS Future Meetings

learn about LA Basin Geology by touring the LA Basin Geology 101 tab.

## Teacher of the Year Award Nominees

The Los Angeles Basin Geological Society is pleased to offer a Teacher of the Year award as a form of encouragement and recognition to those teachers who show dedication and passion to the field of Geoscience. It is our goal to spur teachers and future geoscientists on in their pursuits. If you know of any deserving teacher, you may nominate them by going to our web site, [www.labgs.org](http://www.labgs.org) for a nomination form. Nominations close February 21, 2003 so don't delay.

### Award Description and Requirements

#### ***Award for Excellence in the Teaching Of Natural Resources in the Earth Sciences***

This award is intended to recognize and encourage excellence in teaching earth science at the K-12 level. It consists of a \$250 cash gift (for the teacher's discretionary use), and is given to an outstanding K-12 earth science teacher in the Los Angeles Basin area. Funding for this award comes from the Pacific Section of the American Association of Petroleum Geologists, our parent organization.

This is an annual monetary award that is presented to the Kindergarten through 12th Grade Teacher who best employs and furthers the knowledge of the earth sciences to students, or who has designed a curriculum that emphasizes the teaching of geology or related natural science subjects.

Teachers in the Elementary, Middle School (Junior High), or High School level may nominate themselves or be recommended by a colleague. The requirements are listed here:

- 1) A minimum of three full years of full-time teaching experience at any level K-12.
- 2) Teaching at least one unit per year on natural resources. Natural resources are defined as Earth materials used by civilizations past and present, such as:
  - a) Inorganic substances found in the Earth; water, mineral ores, building stone, aggregate, rocks and sediments.
  - b) Organic materials such as oil, gas, coal, and soil
- 3) Teaching should include scientific study of these resources, their origin, discovery, extraction, and historical and present uses. It should also include the preservation of the environment, reclamation and the conservation of resources.

- 4) Entries must include a statement of the teacher's philosophy of the teaching of natural resources, a description of the unit with outline, Vita, and two letters of recommendation: one from a colleague and one from an administrator.
- 5) The unit will be evaluated on depth and breadth of concepts (resource origin, discovery, processing, usage, and reclamation), creativity of presentation, and balanced treatment of information regarding societal needs and environmental issues.



### You're Invited

The Convention committee is extending a sincere invitation to you to actively participate in the 2003 Combined Meeting of the **Pacific Section of the American Association of Petroleum Geologists** and the **Western Region of the Society of Petroleum Engineers** in Long Beach, California, May 19 to May 24. This event is the third time the WR-SPE and PS-AAPG have combined forces to provide a multidisciplinary forum for the exchange of engineering and geoscience technologies and best practices. It is our hope that this meeting will be a time to rejuvenate your thinking about petroleum engineering and the geosciences, renew acquaintances, honor your profession and its special members, and get excited about the future of our industry.

The Long Beach Hilton Hotel provides the perfect site for the meeting, keeping technical sessions, exhibits and special events all under one roof. The goal of the convention committee is to optimize the time available to provide a maximum amount of information, education, and excitement, at a reasonable price. Your pre-registration fee will include several events that you won't want to miss, a seat at the All Convention Luncheon, your choice of tickets to the WR-SPE Award Luncheon or the PS-AAPG Award Reception, admission to the Wednesday Night Icebreaker and Friday Exhibit Hall Lunch.

Our convention theme - ***LA Basin: Original Oil Field Legend*** highlights the heart of several planned technical sessions, which will disseminate information that can be applied to the entire Pacific

section and western region - parallel development of subsurface and surface resources in difficult environments.

The Technical Program and Education Committees have compiled a strong blend of presentations, poster sessions, panel discussions, short courses and field trips covering a broad range of topics. The meeting will kick off with a wide variety of excellent field trips and timely short courses followed by three full days of technical sessions, which includes over 160 technical papers, and a day dedicated to Independents, officiated by the PTTC.

The meeting announcement will be mailed the first week of March so look for it in the mail. After March 1<sup>st</sup>, you will also be able to get all the convention information on convention web site at [www.psaapg.org/convent.html](http://www.psaapg.org/convent.html). Make your plans now and return the registration form today.

## Preview of Two Convention Field Trips sponsored by the LABGS

### 1) Channelized Turbidite Systems of the Miocene Capistrano Formation, California

**Leaders:** Tor Nilsen, Consultant & Hilario Comancho, Signal Hill Petroleum Co.

**Cost:** \$100.00 - includes bus transportation, snacks, lunch and study guide materials.

**Description:** The one-day field trip to the cities of Dana Point and San Clemente will examine outcrop exposures of channelized turbidite systems within the Miocene Capistrano Formation. In the morning we will examine the deep-water deposits of the Doheny Channel, excellently exposed along the cliffs at Dana Point. We will eat lunch (provided) at San Clemente State Beach, where we will examine the superbly exposed Miocene turbidite system along the beach cliffs. The turbidite system at San Clemente has been interpreted to represent the fill of a single, vertically aggrading turbidite channel.

### 2) Oil Is Where You Find It: The History of Oil Along the Newport-Inglewood Fault Trend

**Leaders:** Don Clarke, Long Beach Department of Oil Properties, John Jepson, California Division of Oil, Gas and Geothermal Resources, James Slosson, Slosson & Associates, Mel Wright, Consultant, Ed Steiner, Leighton and Associates, Bob Lemmon,

Leighton and Associates, Eldon Gath, Earth Consultants International, Dalton Lockman, Plains Exploration and Production Co., Glenn Swanson, Signal Hill Petroleum, Jon Kuespert, Breitburn Energy, and Roy Shlemon, Consultant.

**Cost:** \$100 - includes bus transportation, snacks, lunch and study guide materials.

**Description:** This field trip will visit the oil fields along the famous Newport-Inglewood Fault trend. The trip starts with a visit to Hoag Hospital where natural gas seeps are tapped for the hospital. Up the coast at the giant Huntington Beach oil field recent urban development rapidly covers the old oil operations. A careful eye can spot the precautionary measures in place. The Long Beach Oil field is probably the most prolific oil spot on earth. Here we will examine the Newport-Inglewood Fault and see how urban development co-exists with 82-year old oil activities. The trip continues north through the Dominguez oil field to the Inglewood oil field. At this site occurred the famous Baldwin Hills dam disaster. The trip continues north to visit BreitBurn's new Pico drill site. This trip will provide a geologic overview of the fields along the Newport-Inglewood trend as well as an overview of the petroleum industry today in the Los Angeles Basin. The agenda includes discussions on the environment, politics, energy, history and the future.

## The Technical Program Summary

The table on last page of this newsletter summarizes the planned technical session for the convention. Check it out to wet your appetite. **The program contains over 110 geoscience 50 engineering papers.** If you have any questions or comments, call John Cooper, the technical program chair 714- 278-2662 / [jcooper@fullerton.edu](mailto:jcooper@fullerton.edu)



## Is that a New LABGS Logo?

**Answer: Next Page**

YES! - The LABGS has updated its logo. The old logo, which has been used by the society since the

70's, has been retired into the archives. The new logo updates our image to reflect the LABGS today. Thanks to Ivan Aburto and Juan Benitez for getting the artwork completed. You will spot this logo on the newsletter, the new Web site, and on Tee Shirts which are only given away during our monthly luncheon meeting raffle.

## Contact Us – The LABGS board

President: Dalton Lockman (323) 298-2242  
[dlockman@plainsxp.com](mailto:dlockman@plainsxp.com)

Vice President: Mike Mills (714) 220-9138, ext. 13  
[millslabgs@hotmail.com](mailto:millslabgs@hotmail.com)

Treasurer: Kristi Darby (213) 225-5900  
[kdarby@breitburn.com](mailto:kdarby@breitburn.com)

Secretary: Ivan Aburto (213) 225-5900  
[iaburto@breitburn.com](mailto:iaburto@breitburn.com)

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 Advertising rates for a business card size add  
 are \$60.00 for six issues. These fees help offset  
 our publishing costs. If interested, please  
 contact Dalton Lockman*


### 2003 PSAAPG & WR-SPE COMBINED MEETING TECHNICAL PROGRAM SUMMARY

#### GEOSCIENCE TECHNICAL SESSIONS

Geoscience Technical Chair - John Cooper, Cal-State University Fullerton  
 Geoscience Poster Session Chair - Terry Thompson, ChevronTexaco

#### SPE TECHNICAL SESSIONS

SPE Technical Program Chair - Glenn Swanson, Signal Hill Petroleum Company  
 SPE Technical Program Vice Chair - Rick Finken, Consultant

WEDNESDAY		THURSDAY		FRIDAY	
AM	PM	AM	PM	AM	PM
<i>Stratigraphic applic. to solving ground-water res. issues</i> <b>R.Blake/K.Ehman</b> DEG	<i>High-Resolution Imaging: Oil fields and Faults</i> <b>B. Paulsson</b> SEG	<i>Recent Advances at Elk Hills: Marrying Geology with Technology</i> <b>B. Countryman / B. Long</b> AAPG		<i>Logging</i> <b>Grayson / Julander</b> SPWLA	
<i>Geological, Geophysical, and Petroleum Engineering Aspects of Deep-Water Deposits</i> <b>T. Nilsen / D. Miller / H. Camacho</b> AAPG		<i>Environ. Geology in the Petrol industry: new ideas, new strategies</i> <b>S. Testa</b> JOINT	<i>Environmental/Property Conversion</i> <b>P. Gorski</b> JOINT	<i>Neotectonics and Geologic Hazards of Southern California</i> <b>C. Walls / E. Gath</b> AAPG	
<i>The California Continental margin: Active tectonic, structural evolution, and fluid flow</i> <b>M. Legg / P. Eichhubl</b> AAPG		<i>The Monterey Revisited: where are we now?</i> <b>J. Schwalbach/R. Behl</b> AAPG		<i>Tectonics and Sedimentation: an integrated approach</i> <b>M. Sullivan</b> SEPM	<i>Petroleum-related activities in the LA Basin</i> <b>R. Suchsland</b> AAPG
<i>Production Engineering</i> <b>J. Jones</b> SPE	<i>Drilling / Facilities</i> <b>S. Hara</b> SPE	<i>Management Panel</i> <b>B. Brauer</b> JOINT	<i>Contributions to lower Pz Great Basin Strat: A symp. honoring J.Cooper</i> <b>S. Finney</b> SEPM	<i>San Joaquin Engineering</i> <b>M.Kamal</b> SPE	<i>Academic/Research Innovations</i> <b>J. Torabzede</b> SPE
<i>Geoscience Perspectives</i> <b>R. Finken</b> JOINT	<i>Reservoir Engineering California</i> <b>S. McGurk</b> SPE	<i>Papers</i> <b>I. Ershaghi</b> PTTC	<i>Panel Independents Day</i> <b>I. Ershaghi</b> PTTC	<i>Reservoir Engineering</i> <b>E. Mayer</b> SPE	<i>Fracturing</i> <b>M. Bruno</b> SPE
	<i>Poster Session</i>  JOINT	<i>Poster Session</i>  SEPM	<i>SPEE</i> <b>R.Finken / D. Gold</b> SPEE	<i>Poster Session</i>  AAPG	

Session Titles and Session Chair(s) / Moderator(s) are noted. Final program subject to change

	JOINT GEOSCIENCE AND ENGINEERING SESSIONS (6) - Includes SPWLA / DEG sponsored sessions.
	SPE ENGINEERING SESSIONS (7)
	GEOSCIENCE SESSIONS (17) - Sponsored by AAPG / SEPM / SEG / DEG
	PTTC / SPEE= GEOSCIENCE AND ENGINEERING SESSIONS (3) - Sponsored by PTTC and SPEE



# Los Angeles Basin Geological Society Membership Form

**Join the LABGS and become a member of the Pacific Section AAPG all for one low price of \$12.00 per year - 2 West Coast Geoscience Organizations for the price of one**



### Membership Benefits

- LABGS Membership
- Monthly Luncheon Meetings with Strong Technical Programs
- Pacific Section AAPG Membership
- Pacific Section AAPG Bi-Monthly Newsletter
- Discounts for PSAAPG Bookstore Publications
- Bi-Annual West Coast Geoscience Directory - *next edition 6/03*
- Networking and Social Opportunities with Fellow Geoscientists

#### Current Annual LABGS/PSAAPG Dues

1 Year Option = \$12.00	\$ _____
3 Year Option = \$36.00	\$ _____

#### Extended E-Mail Announcement List Fees

To receive meeting notices from SJGS and CGS

1 Year Option = \$12.00	\$ _____
3 Year Option = \$36.00	\$ _____

#### PSAAPG Foundation Contributions

B. Hacker Publication Fund	\$ _____
Martin Van Couvering Fund	\$ _____
Dibble Map Foundation	\$ _____
California Well Sample Repository	\$ _____
John Kilkenny Scholarship Fund	\$ _____
PSAAPG Foundation Trust Fund	\$ _____

#### TOTAL PAYMENT

Total Amount Enclosed	\$ _____
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#### Essential Member Information

Last Name	_____
First Name	_____
Middle Initial	_____
E-Mail Address	_____
Mail Address	_____
<i>Res or Bus ?</i>	_____

#### Additional Directory Information

Employer	_____		
Position / Title	_____		
Bus Phone #	_____		
Res Phone #	_____		
Fax Phone #	_____		
Spouse's Name	_____		
Education	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"><i>Highest Degree</i></td> <td style="width: 40%; text-align: center;"><i>Year</i></td> </tr> </table>	<i>Highest Degree</i>	<i>Year</i>
<i>Highest Degree</i>	<i>Year</i>		
School	_____		

**Signature** \_\_\_\_\_

*Annual membership is handled through PSAAPG and runs from July 1, through June 30. If you are already a current member of PSAAPG and you selected LABGS affiliation you are already a member of the LABGS.*

**Please Make Checks out to PSAAPG and mail along with member form to:  
PSAAPG P.O. Box 1072, Bakersfield, CA 93302**