



October 2003

Los Angeles Basin Geological Society Newsletter

October Meeting:

Shari Christofferson will speak on Determination of Paleo-Earthquakes along the Puente Hills Blind Thrust

Speaker Synopsis / Abstract

Determination of Paleo-earthquakes, Slip per Event Data, and a Holocene Slip Rate for the Puente Hills Blind-Thrust Fault, Los Angeles, California

Shari Christofferson earned her Master's Degree at the University of Southern California where she focused her research on the Puente Hills Thrust Fault. She is currently a Staff Geologist at Leighton and Associates' Irvine office. Working with the Active Tectonics group at USC, headed by Prof. James Dolan, Shari has been involved with collaborative research on a number of southern California's active faults and has taken part in mapping of the surface ruptures produced by the 1999 Hector Mine and 1999 Izmit, Turkey earthquakes. Shari is currently enjoying the challenges of working at the interface of science and society as a consulting geologist.

The Puente Hills thrust fault (PHT), which generated the 1987 M 6.0 Whittier-Narrows earthquake, is an active blind-thrust fault that lies directly beneath downtown Los Angeles, extending ~ 40-50 km from Beverly Hills to Fullerton, California [Shaw and Shearer, 1999]. Blind-thrust faults have in the past represented an ill-defined seismic hazard because traditional methodologies for acquiring paleo-earthquake information require the fault in question be exposed at the surface. In this study, we developed and tested a multi-disciplinary methodology for assessing the earthquake histories of blind-thrust faults, focusing on the forelimb growth triangle of the Santa Fe Springs anticline associated with slip on the PHT. A hollow-stem and bucket-auger borehole transect excavated across the upward projection of the growth triangle identified on petroleum industry and high-resolution seismic

reflection profiles exposed a discrete, upward-narrowing zone of south-dipping strata. Stratigraphic correlation across this transect revealed four stratigraphically discrete intervals that show southward thickening, or growth, within a 250-125 m wide zone. Each growth section was deposited after temporally separate slip events on the PHT, revealing evidence for four paleoearthquakes in the past 11,000 years. We have determined slip in each event to between 1.5 and 5 m. These data suggest the PHT ruptures in earthquakes greater than magnitude 7. The minimum slip rate on the Santa Fe Springs segment is 1.1-1.6 mm/yr accommodating ~ 15-30% of the geodetically measured north-south shortening rate across the Los Angeles basin.

Speaker info: Shari Christofferson
Leighton and Associates, 17781 Cowan, Irvine, CA 92614, (949)
250-1421 sharic@leightongeo.com

Time & Place

Time:

October 23, 2003 4th Thursday of each month

Typical Meeting Agenda

Lunch Served: 11:30 AM to 12:00PM

Announcements: 11:50 AM to 12:15 PM

Guest Speaker: 12:15 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

Cost:

Lunch and Speaker: **\$17.00 with reservations**
 \$20.00 without reservations
Student: **\$ 5.00 (Lunch and Speaker)**

Reservations:

Make your reservations using our web site at www.labgs.org, emailing iaburto@breitburn.com or phoning Ivan Aburto at (213) 225-5900 ext. 234. **Reservations must be made prior to Tuesday** before the meeting.

LABGS Future Meetings

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

2003 Fall / Winter Speaker Schedule

October 23, 2003 – Shari Christofferson
Determination of Paleo-earthquakes, Slip per Event Data, and a Holocene Slip Rate for the Puente Hills Blind-Thrust Fault, Los Angeles, CA

November 20, 2003 Linda Bonnell AAPG
Distinguished Lecture (3rd Thursday of Month)
Reservoir Quality Prediction in Deep Water to Tight Gas Sandstones Using a Process / Stochastic Modeling Approach

December 25, 2003
No Meeting – Merry Christmas

January 22, 2004 – Ed Marks
Bio-Steering into the Monterey Formation

February 26, 2004 – TBD
TBA

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Advertising in this newsletter is now available!
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

Announcements / Information

Thursday October 23 is Designated Russ Simonson Day

In 1953, **Russ Simonson** was elected President of the Pacific Section AAPG. 50 Years have passed since that election and the LABGS plans to honor Russ at our luncheon meeting for his dedication to the Geologic profession. Back in 1953, California, particularly Los Angeles, was swarming with geologists looking for oil and gas reserves. Russ had an integral part in facilitating communication of geologists around the state while he served as PSAAPG President.

Russ graduated from the university of California at Los Angeles earning a B.A. in Geology in 1934, and his M.A. in Geology in 1936. Following graduation, Russ started work for the Pacific Coast Borax Company in the Death Valley area. After dabbling in the mineral exploration business, Russ put his stratigraphic and micropaleo skills to use for the Union Oil Company. Russ worked this job until 1942 after which he made a short stop at the North American Consolidated Oil Company in Taft, California followed by 23 years of dedicated service to Marathon Oil (Ohio Oil Company) working out of Bakersfield and Denver. In 1965, Russ ventured out to be a consultant in the Oil and Gas industry and still works as diligently today as he did when he first started out.

LABGS Board Member Status: **1 position filled, 1 position to go.**

With the departure of Mike and Kristi in the summer, we lost our vice president and treasurer. We have had several inquiries about the positions and we are pleased to announce that **Javed Azam**, who works as president of LKR GROUP, INC. in Torrance, has volunteered to be our Vice President for the remainder of the year. The Treasurer position is still open so, if you are interested in getting involved in the LABGS now would be a good time to start. No experience required. The only requirement is that you are have integrity and are committed to serving the members of the LABGS for the year and are a current member of the PSAAPG (LABGS affiliation). New ideas and enthusiasm are desired. Contact Dalton Lockman if

you are interested. These are vital positions to the leadership and future of the LABGS.

In Memoriam

The LABGS geologic community was saddened at the end of September / early October with the news that two preeminent geologists had died.

Peter Weigand died during the week of September 22 from complications resulting from heart surgery. Peter had recently retired after 30 years of teaching and mentoring at CSUN. He was the recipient of numerous awards including the PSAAPG Distinguished Educator Award presented last May.

Buzz Ivanhoe died on October 1st. No details regarding his death are known. Buzz worked extensively in the LA Basin area and contributed to many publications about the geology of the local area. Buzz was a currently serving on the Board of Directors at the Dibblee Foundation.

LABGS Web Site

Our web site may be accessed at www.labgs.org. It is a great place to keep informed over what is going on in the LABGS. We are undergoing several changes this summer to make it more useful to you our members. If you have any suggestions for improvement, please contact any of our board members. If you haven't noticed, you will discover that you can access our newsletter, make reservations for the lunch meeting, contact an LABGS officer, or learn about LA Basin Geology by touring the LA Basin Geology 101 tab.

Contact Us – The LABGS board

President: Dalton Lockman (323) 298-2242

dlockman@plainsxp.com

Secretary: Ivan Aburto (213) 225-5900, ext. 234

iaburto@breitburn.com

LABGS Membership / Mailing List

Become a member of the LABGS and enjoy the benefits of membership. Our goal is to provide a value added service to the geologic community of the LA area at a reasonable

cost. If you join the LABGS you also become a member of the PSAAPG and vice versa. The purpose of this is to reduce waste and duplicated effort. Check out the membership form for a list of the dual membership benefits. Membership is our primary source of income so I urge you all to join or renew. **To join or renew**, fill out the attached membership form and mail it in to PSAAPG or better yet bring it to the next meeting. This will ensure you are on our lists and the only way you can request a hard copy through the mail. The use of E-mail is our preferred method of distribution so please make sure we have your address.

Field Trip Being Planned to Examine the Catalina Schist and the Palos Verdes Peninsula

Dick Brown has organized a planning committee for a trip to the Palos Verdes peninsula. The trip is tentatively planned for the spring of 2004. If you are interested in helping out contact Dick at (562) 598-0595

Call For Papers

The PSAAPG is planning for their annual meeting in 2004, which will be held in Bakersfield, May 8 – 12. Consider documenting and sharing some of your geologic work in the form a poster or oral presentation. The deadline for submitting abstracts is December 31, 2003. For more information and a copy of the abstract submittal form, go to the PSAAPG.org web site and visit the “convention” tab.

DAVID B. DEL MAR

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California Registered Geologist # 634**

Development – Thermal EOR – Property Reviews

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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 \$ _____

Essential Member Information

Last Name _____
First Name _____
Middle Initial _____
E-Mail Address _____
Mail Address _____
Res or Bus ? _____

Additional Directory Information

Employer _____
Position / Title _____
Bus Phone # _____
Res Phone # _____
Fax Phone # _____
Spouse's Name _____
Education *Highest Degree* _____ *Year* _____
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**