



January 2008

Los Angeles Basin Geological Society Newsletter

February 28, 2008 Meeting: Dr. Greg Holk

Will speak on . . .

“Stable Isotopic Clues to Fluid Pathways in Major Crustal-Scale Fault Zones”

Speaker Synopsis / Abstract

The circulation of aqueous fluids through the Earth's crust has profound effects on its geologic evolution, the formation of ore deposits, the migration of hydrocarbons from source to sites of accumulation, and the storage of groundwater resources. Major crustal-scale fault zones play a major role in determining the pathways for fluid flow in these systems.

Studies of the isotopes of oxygen (^{16}O , ^{17}O , and ^{18}O) and hydrogen (H, D) of rock and mineral samples affected by crustal fluids provide valuable information to the geoscientist about the history of water-rock interaction as well as the duration and intensity of events involving fluids of diverse origin. Isotope exchange reactions between water and rock occur during these events that provide information about temperature and fluid source (meteoric vs magmatic vs metamorphic vs formation waters).

Case studies that showcase the role of major crustal shear zones are presented to show the importance of fluids on the tectonic evolution of the Earth's crust and the formation of ore deposits. These studies include: (1) the role of water in the magmatic and tectonic evolution of metamorphic core complexes at the Southern Omineca Belt, British Columbia and the southern White Pine Range, east-central Nevada, (2) large-scale infiltration of metamorphic fluids generated during shallow subduction into the Eastern Peninsular Ranges Mylonite Zone, southern California, (3) a 1 billion year fluid evolution of sedimentary basins that host unconformity-type uranium deposits, (4) submarine hydrothermal

systems associated with felsic caldera systems that host massive sulfide deposits.

Dr. Holk is Associate Professor of Geology and a founding member of the Institute for Integrated Research in Materials, Environments and Society at California State University, Long Beach. Since his arrival to CSULB in 2000, Dr. Holk founded the CSULB Stable Isotope Laboratory in IIRMES and has been responsible for teaching courses that include geochemistry, geophysics, and geologic field mapping. He received his B.S. in geology at Arizona State University Main Campus in Tempe, and the M.S. and Ph.D. degrees at the California Institute of Technology. He served two years as a research scientist at the Geological Survey of Canada as a member of the mineral resources group developing stable isotope techniques for the exploration of massive sulfide ore deposits. Before his arrival at CSULB, Dr. Holk was a research scientist at Queen's University (Canada) investigating the evolution of sedimentary basin fluids responsible for the creation of the world's largest uranium deposits in Australia and northern Saskatchewan, Canada. He is a member of the Geological Society of America, the American Geophysical Union, and the Society of Economic Geologists. Dr. Holk has published 18 papers and 29 abstracts on the applications of stable isotope geochemistry towards understanding geologic phenomena

**A GREAT TALK TO FIND OUT
ABOUT EARTH FLUIDS . . .
AND MORE !!!**

Meeting Time, Place, Cost and Reservations

Time:

Thursday, February 28, 2008

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:

Lunch and Speaker: \$20.00 with reservations
\$25.00 without reservations
Student: FREE (Lunch and Speaker)

Meeting Reservations:

Make your reservations using our web site at www.labgs.org, by calling Marieke at (562) 624-3364., or emailing Marieke_Gaudet@Oxy.com. **Reservations must be made prior to Tuesday** before the meeting, but walk-ons are always welcome.

Upcoming 2008 Speaker/ Event Schedule

February 28, 2008 – Dr. Gregory Holk of CSULB will talk about “*Stable Isotopic Clues to Fluid Pathways in Major Crustal-Scale Fault Zones*” .

March 31 to April 2 – PSAAPG/ SPE/ SPWLA/ SEG Convention in Bakersfield, CA.

March 27, 2008 – Dr. Kenneth Peters of the USGS will talk about "*Families of Monterey Crude Oil, Seep Oil, and Tarballs in Coastal California*".

April 20 to April 23 – National AAPG Convention in San Antonio, TX.

April 24, 2008 – To be announced.

If you have a speaker suggestion, please mention it to a Board member !!

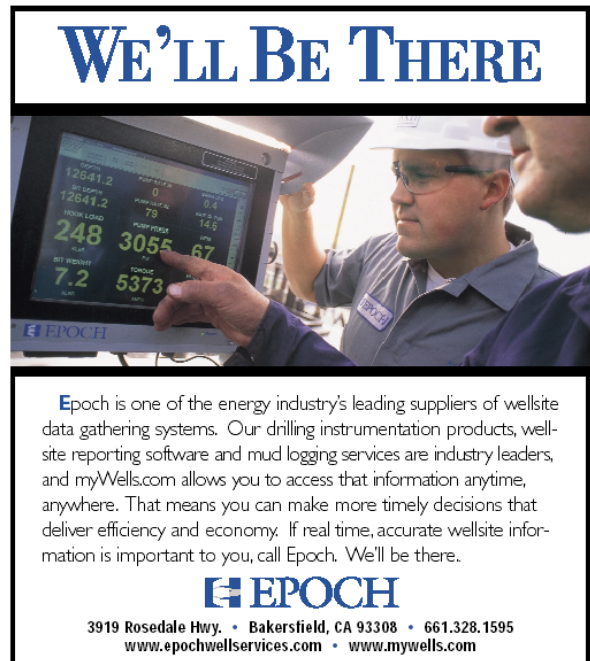
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Student Sponsorship

Both Halliburton and Schlumberger are defraying the cost to the Society as our students-at-the-monthly meetings program. *Students are free at all meetings.* Thank you.

The LABGS Don Clarke Award

The Don Clarke Brunton Award is given to a qualified student attending a LA Basin community college with the goal of getting an Associate degree, and enrolled with plans to pursue a baccalaureate degree in Geology or the Earth Sciences.

The Society is currently looking for a qualified applicant for the 2008 award.

SELECTION PROCESS

The award winner is selected from candidates nominated by a faculty member at their original school. The winner is selected based on the following criteria:

- Grade point average in earth science classes.
- An enthusiastic or special recommendation from the advisor, department chair, or mentor professor

The LABGS Brunton Award

The LABGS Brunton Award is given to a qualified undergraduate student attending a four-year LA Basin College or University currently pursuing a baccalaureate degree in Geology or the Earth Sciences.

The Society is currently looking for qualified applicants for the 2008 award.

SELECTION PROCESS

The award winner is selected from candidates nominated by a faculty member. The winner is selected based on the following criteria:

- Grade point average in earth science classes.
- An enthusiastic or special recommendation from the college advisor, department chair, or mentor professor

SEE THE WEBSITE FOR FORMS

Imperial Barrel Award

Our San Diego State student chapter is competing in the Imperial Barrel Award PSAAPG runoff against the University of Alaska- Fairbanks on March 14th. This runoff will determine the PSAAPG team that will be sent to the National convention in San Antonio in April and then compete against schools from around the world.

The Imperial Barrel Award is a 30+ year program / contest for graduate-level students at universities around the world. The student teams interpret and review geological, geophysical, land and economic data and then present it to a review team composed of oil & gas professionals. National AAPG sponsored the 2007 version at the National Convention in Long Beach. The response was so good and the feedback was so positive that AAPG decided to hold it again at San Antonio in 2008.

Each team in San Antonio will be compensated for travel, accommodations and registration.

The national AAPG grand prize is \$20,000, the second is \$10,000, and the third is \$5,000.

More info can be found at www.aapg.org/iba.

The LABGS Field Trip

The LABGS Winter field trip has been delayed and will be held Sunday March 16, 2008 to coincide with a very low tide along the shoreline outcrops.

The field trip will visit coastal exposures of Miocene and younger extensional faults, syn-rift sediments and intrusives (San Onofre Breccia, Monterey Formation, dacitic and andesitic dikes) and post-rift sediments (Capistrano Formation) that were deposited in the newly formed tectonic troughs. Discussions at San Onofre State Beach, Dana Point, and Laguna Beach will be based upon excellent coastal outcrops and recently acquired multichannel seismic reflection profiles and high-resolution bathymetric data from the adjacent offshore continental borderland.

See this newsletter for a flyer

President's Note

To all our members,

The big news is that the LABGS fieldtrip has been delayed to Sunday, March 16th. It seems that the Super Bowl >>>> field geology + great weather. We look forward to a great trip. See the announcement in this newsletter.

At the January meeting Dr. Suzanne Alwash gave us a talk on "*Restoration of the Tigris and Euphrates marshes in Iraq, and other topics*". Her husband, Dr. Azzam Alwash, was delayed in Iraq and she volunteered to jump in and give the talk. We had a great turnout as it was also a joint meeting with the LA Association of Professional Landmen (LAAPL), and the PSAAPG ExCom. We all saw some great pictures and learned about marsh restoration.

The other big event at the meeting was handing out service awards to Steve Zigan (past Treasurer) and Ivan Aburto (past Secretary / website guru), and then giving the Don Clarke Brunton Award to Ms. Rane Anderson of Long Beach City College (now at CSULB). Lots of awards!! See the next page for pics!

We are looking for a TOTY candidate. See the announcement in this newsletter for the Teacher-of-The-Year award (TOTY).

The Imperial Barrel Award is the big thing now for the AAPG. What is it you ask? See the AAPG website. The LABGS has one of its student chapters (SDSU) working on a presentation for the overall PSAAPG sponsorship.

Thanks!

Jon

Contact Us – The LABGS Board

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jkuespert@breitburn.com

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bill_long@oxy.com

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k2mobile@MSN.com

Secretary: Marieke Gaudet (562) 624-3364
marieke_gaudet@oxy.com

OUR WEB SITE ADDRESS IS:
www.labgs.org



Our January speaker, Dr. Suzanne Alwash (r), and our Vice President, Bill Long (l), after a great talk!



Ivan Aburto (r), our past Secretary / website guru, receiving a Service Award from Jon Kuespert (l), our President.



Ms. Rane Anderson (c), the 2007 Don Clarke Brunton Award winner, with her recommender, Dr. Doug Britton (l) of Long Beach City College, and Don Clarke (r), the benefactor of the award.



Ms. Rane Anderson (l), the 2007 Don Clarke Brunton Award winner, with Don Clarke (r), the benefactor of the award.



Steve Zigan (r), our past Treasurer, receiving a Service Award from Jon Kuespert (l), our President.

2008 Los Angeles Basin Geological Society Field Trip
Neogene Extensional Tectonics and Sedimentation,
Coastal Southern California.

Sunday, March 16, 2008 RESCHEDULED !!!!

Field Trip Leaders:

Mark Legg (Legg Geophysical)

Richard Behl (California State University Long Beach)



This field trip will visit coastal exposures of Miocene and younger extensional faults, syn-rift sediments and intrusives (San Onofre Breccia, Monterey Formation, dacitic and andesitic dikes) and post-rift sediments (Capistrano Formation) that were deposited in the newly formed tectonic troughs. Discussions at San Onofre State Beach, Dana Point, and Laguna Beach will be based upon excellent coastal outcrops and recently acquired multichannel seismic reflection profiles and high-resolution bathymetric data from the adjacent offshore continental borderland.



Although developed within the transform framework of the Pacific-North American plate boundary, an extreme extensional component was critical to the development of southern California's Neogene basins. Miocene transtension gave way to Pliocene and younger transpression as the plate boundary shifted inland to the San Andreas fault with its major restraining bend, and the Transverse Ranges rotated clockwise within the predominant.

northwest-trending right-slip transform motion vector. The evolving structure of the Neogene basins and troughs controlled the distribution of basin-fill as sedimentation increased during the late Miocene to Pliocene. Structural inversion of Miocene extensional basins in the late Neogene-Quaternary resulted in the formation of most of the major oil and gas fields in southern California.

Professional: \$100

Students and Retirees: \$40 (limit of first 5)

Please make reservations with: LABGS Vice President / Program Chair: Bill Long,
Email: Bill_Long@oxy.com Office Phone: 562-624-325

Trip departure from CSULB, more details to follow.



Announcing
The Los Angeles Basin Geological Society
\$250 Award for
Teacher of The Year-Excellence In The Teaching Of
Natural Resources in The Earth Sciences

The Los Angeles Basin Geological Society will award \$250 in February of 2008 for Excellence in the Teaching of Natural Resources in the Earth Sciences. The winner of this award will also be eligible for consideration by the Pacific Section of the American Association of Petroleum Geologists for their award of the same name.

The award will be a \$250 certificate for the winner's use for their school or for that teacher to attend science conferences or training seminars.

Requirements:

1. Minimum of three full years 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:
 - Inorganic substances found in the Earth such as water, mineral ores, building stone, aggregate, rocks and sediments.
 - Organic materials such as oil, gas, coal, and soil.
3. Teaching should include scientific study of these resources, for example: their origin, discovery, extraction, and/or historical and present uses. It may also include the preservation of the environment, reclamation, and/or the conservation of resources.
4. Entries will include the a brief description 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 (e.g. resource origin, discovery, processing, usage, and reclamation), creativity of presentation, and balanced treatment of information regarding societal need and environmental issues.

Nominations may be made either by the teacher wishing to be considered for the award or by someone familiar with a particular teacher's performance and credentials. For further information and entry forms contact:

Los Angeles Basin Geological Society
Attn: Karla Tucker
18763 Fairfax Ln.
Huntington Beach, CA 92648
(714)841-4546
ktr2@aol.com

Entries must be postmarked by February 28, 2008. Winner will be announced in March 2008.



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

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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**