October 2004

Los Angeles Basin Geological Society Newsletter

October Meeting: Arthur Green – 2004/05 AAPG Distinguished Lecturer

Will speak on

THE DYNAMICS OF THE SUN / EARTH CLIMATE SYSTEM

Speaker Synopsis / Abstract

Art is a retired geoscientist from Exxon Mobil Exploration Company. He earned B.S. in Geology from Washington State in 1957 and his M.S, in Geology from University of Oregon in 1958. Art's professional interests include worldwide analysis techniques, hydrocarbon play analysis wheels, and the influence of geology on human history and ecology. Art started his professional career with the Humble Oil Company in 1962 as a well site geologist then progresses his way to Chief Geoscientist with Exxon Mobil (Humble became Exxon, Exxon Became Exxon Mobil) until his retirement in 2003.

The climate of Planet Earth is in a continuous state of either cooling or warming as the elegant sun-earth climate system equilibrates the surface temperature within a range of 16º Centigrade.

We are currently living in a not-yet-completed interglacial stage and we are experiencing a minor warming trend. Glacial periods tend to have more rapid climate changes. In the last 15 thousand years, there have been two types of climate change: 1) moderate and gradual, 2) major and abrupt.

The last decade of climate research has taught us what we don't know and has revealed that we are only at the beginning of the learning curve. "We do not understand the fundamentals of abrupt climate change well enough to predict them." (NRC Abrupt Climate Change 2002).

The models used to project future climate changes and their importance are at an early stage of development. Because forward modeling is so complex, geologic science has a unique role in understanding the processes of climate change. Geology is the only discipline that routinely works backward in time to unravel facts and interactions of natural processes. Paleoclimatic rock and ice records show that large climate changes have occurred on our planet throughout its history. These changes appear to be caused by the equilibrating interactions of a large number of drivers both internal to the planet as well as external solar forces. The deep difficulty of conducting climate and global change research is that it requires the non-linear complex integration of a wide spectrum of the sciences - meteorology, physics, chemistry, geology, botany, biology, mathematics and sophisticated computer modeling.

Climate is not weather - it is infinitely more complex, and mature scientific analysis may be non-intuitive. The last 17,000 years of ice core records coupled with the events of ancient history chronicle a fascinating story of human progress and adaptability. During this period, the Earth's climate varied as ice at the poles waxed and waned and sea levels rose and fell. The flooding and retreat of the seas along coastal zones and the advance and retreat of glaciers created migration paths for animal populations and man. The migrating and mixing of peoples, the growth of agriculture, the domestication of animals, and the establishment of the world's ancient cities were all influenced by the rhythms of the planet's changing climate.

Art Green – AAPG Distinguished Lecturer 2004 - 2005

Time & Place

Time:

Thursday, October 28, 2004

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:	**$20.00 with reservations**
	$23.00 without reservations
Student:	**$ 5.00 (Lunch and Speaker)**

Reservations:

Make your reservations using our web site at www.labgs.org, emailing iaburto@breitburn.com or calling 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

2004 Speaker Schedule

October 28, 2004 – Art Green – AAPG Distinguished Lecturer
Dynamics of the Sun/Earth Climate System

November 18, 2004 - Don Clarke – City of Long Beach Oil Properties
Faults and Faulting in the Willington Oil Field

December 23, 2004 – No Meeting
Merry Christmas

Announcements / Information

Luncheon Cost Increased to $20. Effective at the October meeting

The Los Angeles Basin Geological Society Board of Directors has decided to increase the fees we charge for our monthly meeting. The increase is necessary to offset the cost of the luncheon and allow us to sponsor students attending the meeting to pay only $5. The board discovered that $20 is in line with luncheon conducted by similar organizations. We hope this modest increase doesn't cause anyone to stop coming each month

CD VERSION

Neotectonics and Coastal Instability, Orange and Northern San Diego Counties, California

2000 PSAAPG and WRSPE
Field Trip Guidebook

The LABGS is pleased to offer in CD Format, a scanned version of the original field trip guidebook "Neotectonics and Coastal Instability of Orange and Northern Sand Diego Counties". The original hardcopy volume was as the guidebook for the PSAAPG / WRSPE joint field conference held in Long Beach in 2000 and only provided to those in attendance. In this CD release, the editors have scanned all the maps and charts and included them with the technical reports that influence the interpretation of the neotectonics and coastal instability of Orange and northern San Diego counties. **The cost of the CD version is $28.00 at the meeting. You can also order directly from the PSAAPG web site at www.psaapg.org. The cost from PSAAPG is $30. Proceeds of the sale go to the LABGS and PSAAPG.**

The original guidebook contained two volumes. At the time of the field trip, Volume I provided 5 new articles and 8 recently published papers. Volume II presented 13 unpublished reports produced in the 1970's as part of licensing investigations for Units 2 and 3 of the San Onofre Nuclear Generating Station (SONGS - known to most Quaternary geologists and geomorphologists in southern California. But, for those unaware of these

remarkable documents, the editors have compiled them into a single volume for review and reference).

The additional benefit of this scanned version is that it includes all the maps and charts not easily reproduced. These include:

Large format maps (such as Perry Ehlig's geologic map of the San Onofre area, have been scanned as PDF file)

Large format Charts (Correlation of elevated marine terraces along the coast from Dana Point to San Diego, and correlation of stratigraphic units in the San Onofre area).

Contents - Volume I

Franklin, J.P., and G.G. Kuhn, 2000, Paleoseismic features exposed by trenching the lowest coastal terrace at Carlsbad, California (this volume).

Gallegos, D.R., 1987, A review and synthesis of environmental and cultural material for the Batiquitos Lagoon region in Hector, S.M., and Van Wormer, S.R., eds., San Dieguito - La Jolla: chronology and controversy: San Diego Archaeological Society Research Papers, No. 1, pp. 23-34

Grant, L., K.J. Mueller, E.M. Gath, H. Cheng, R.L. Edwards, R. Munro, and G.L. Kennedy,1999, Late Quaternary uplift and earthquake potential of the San Joaquin Hills, Southern Los Angeles Basin, California: Geological Society of America, v. 27, no. 11, pp. 1031-1034 (includes comment by E.E. Bender [1 page], reply by Grant [1 page])

Kuhn, G.G., 2000, Sea Cliff, Canyon and Coastal Terrace Erosion between 1887 and 2000: San Onofre State Beach, Camp Pendleton Marine Corps Base, San Diego County, California: 51 pp., 30 figs., 5 plates (this volume)

Kuhn. G.G., M.R. Legg, R.J. Shlemon, and J.L. Bauer, 2000, Neotectonics in the North Coastal Area, San Diego County, California (this volume)

Kuhn, G.G., and D.S. McArthur, 2000, Beaches and sea cliffs of northern and Central San Diego County, California (this volume)

Osborne, R.H., T.M. Fogarty and G.G. Kuhn, 1989, A quantitative comparison of coarse-grained sediment yield from contributing cliffs and associated rivers: southern Orange and San Diego Counties, California: Geological Society of America meeting held at Spokane, Washington, abstracts with programs, No. 20293

Pryor, D.R., 2000, The vegetation of San Onofre State Beach, San Diego County, California (this volume)

Shlemon. R.J., 1987, The Cristianitos fault and Quaternary Geology, San Onofre State Beach, California: Geological Society of America Centennial Field Guide - Cordilleran Section, pp. 171-174

Shlemon, R.J., G.G. Kuhn, B. Boka, and R.E., Riefner, Jr., 1997, Origin of a mima-mound field, San Clemente State Park, Orange County, California: A test of the seismic hypothesis: Association of Engineering Geologists; annual meeting held in Portland, Oregon, between September 30 through October 4,1997, abstracts with programs

Slosson, J.E., G.G. Kuhn., R.J. McCarthy, and M.R. Legg, 2000, Use of space photography for fault and geomorphic studies: Geological Society of America, Cordilleran Section, 96th annual meeting held on April 27-29, 2000, in Vancouver, British Columbia, Session #80051, p. A-62

Slosson, J.E., and Larson, R.A., 1995, Slope Failures in Southern California: Rainfall Threshold, Prediction, and Human Cause in Environmental & Engineering Geoscience, Winter, 1995, pp. 393-401

Shlemon, R.J., 1999, The hazard of geologic hazards to geology: The Professional Geologist, v 36, n 4, p 9-10

Contents - Volume II

Anderson, Warren, and Associates, 1977, Results of microfossil identification and geologic age correlation, vicinity of San Onofre Generating Station, California: unpublished report prepared for Southern California Edison Company (Rosemead): 38 p., 1 figures

Ehlig, P.L., 1977, Geologic report on the area adjacent to the San Onofre Nuclear Generating Station, Northwestern San Diego County, California: unpublished report prepared for Southern California Edison Company (Rosemead): 38 p., 10 figures

Euge, K. M., Miller, D. A., and Palmer, L. A., 1972, Evidence for a possible onshore extension of the Rose Canyon Fault in the vicinity of Oceanside, California: [abstract] Geological Society of America, Abstracts with Programs, Cordilleran Section Meeting held in Portland, Oregon, November 22, 1972.

Fugro, Inc., 1975a, Summary of geomorphic and age data for the first emergent terrace (Qt1) at the San Onofre Nuclear Generating Station: unpublished report prepared for Southern California Edison Company (Rosemead), 50 p., 11 tables, 4 drawings, 4 figures.

Fugro, Inc., 1975b, Geomorphic analysis of terraces in San Juan and Bell canyons, Orange County, California: unpublished report prepared for Southern California Edison Company (Rosemead), 50 p., 11 tables, 3 figures.

Fugro, Inc., 1977a, Supplemental report of geological investigations, Trail #6 landslide [San Onofre State Beach] and Horno Canyon [Camp Pendleton], southeast of San Onofre Nuclear Generating Station: unpublished report pre-pared for Southern California Edison Company (Rosemead), Project #77-206-01, November 28, 1977, 15 p., 2 plates, 12 figures.

Fugro, Inc., 1977b, Geological investigations of offsets in Target Canyon, Camp Pendleton, California: 29 p., 3 plates, 6 figures.

Shlemon, R. J., 1977, Geomorphic analysis of Fault "E", Camp Pendleton, California [San Onofre State Beach, Trail #3]: unpublished report prepared for Southern California Edison Company (Rosemead), 10 p., 8 figures, 1 appendix.

Shlemon, R. J., 1978a, Late Quaternary evolution of the Camp Pendleton - San Onofre State Beach area, northwestern San Diego County, California: unpublished report prepared for Southern California Edison Company (Rosemead), 114 p., 28 figures, 6 tables.

Shlemon, R. J., 1978b, Late Quaternary rates of deformation, Laguna Beach to San Onofre State Beach, Orange and San Diego

Counties, California: unpublished report prepared for Southern California Edison Company (Rosemead), 40 p.

Shlemon, R. J., 1979a, Late Quaternary rates of sedimentation and soil formation, Camp Pendleton and San Onofre State Beach coastal area, southern California: in Fife, D. L., editor, Geological Guide of the San Onofre Nuclear Generating Station and Adjacent Regions of Southern California: Pacific Sections, American Association of Petroleum Geologists, Society of Economic Mineralogists and Paleontologists, and Society of Exploration Geophysicists Guidebook Number 46, p. A47-A48.

Shlemon, R. J., 1979b, Late Cenozoic stratigraphy: Capistrano embayment coastal area, Orange County, California: unpublished report prepared for Southern California Edison Company (Rosemead), 27 p., 7 figures.

Shlemon, R. J., 1979c, Age of "Dana Point", "Vaciadero", and "Carr" faults, Capistrano embayment coastal area, Orange County, California: unpublished report prepared for Southern California Edison Company (Rosemead), 22 p., 7 figures.

Shlemon, R. J., 1979d, Late Pleistocene channel of the lower Santa Margarita River, San Diego County, California: in Fife, D. L., editor, Geological Guide of the San Onofre Nuclear Generating Station and Adjacent Regions of Southern California: Pacific Sections, American Association of Petroleum Geologists, Society of Economic Mineralogists and Paleontologists and Society of Exploration Geophysicists

Your Name Here!

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

Guidebooks from the 2004 LABGS Field Trip Examining the Catalina Schist and the Palos Verdes Peninsula are now on sale!

The guidebook will be available at the LABGS meeting on October 28, 2004. The cost of the guidebook is **$20.** The book is 179 pages and printed in color. There is enough detail to allow you to recreate the trip on your own. The Guidebook is edited by Dick Brown who organized and led the trip on June 26, 2004. You may also purchase a copy by contacting Dick Brown (see list of contacts, this page). **Photos of the trip are now posted on our web site at www.labgs.org. check them out !**

LABGS T-Shirts NOW ON SALE

The Board has decided to sell LABGS T-Shirts to generate additional funds to help support our scholarship and field trip activities. Up to now, T-shirts with our new logo have only been available to those winning our luncheon meeting raffle. The shirt will display the LABGS logo on the Back with the words "LA Rocks" on the Front. The Price for shirts will be $15.00 and available only at our luncheon meetings. Sizes will be limited to Medium, Large, and Extra Large. **Buy one at the October Meeting!**

Contact Us – The LABGS board

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OUR WEB SITE ADDRESS IS:
www.labgs.org

Earth Science Week: October 10-16, 2004

This year, Earth Science Week will focus on Natural Hazards and the ways that Earth Scientists study hazards in order to understand their causes and minimize their impact on society.

What is Earth Science week you ask? Since October 1998, the American Geological Institute has organized this national and international event to help the public gain a better understanding and appreciation for the Earth Sciences and to encourage stewardship of the Earth

You can share your knowledge and enthusiasm about Earth science with others by getting involved in Earth Science Week 2004. Find out more information from the American Geological Institute at **www.earthsciweek.org**

Not a Member you say!!! Join and get on the 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

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