September 2004

# Los Angeles Basin Geological Society Newsletter

## September Meeting: Dr. David Mayo – Cal State Los Angeles

Will speak on

***IN THE ROOTS OF A MIOCENE VOLCANO IN SOUTHEASTERN CALIFORNIA***

## Speaker Synopsis / Abstract

*Dave earned his Ph.D. in Geological Sciences from the University of Southern California in 1996, where he studied the igneous and metamorphic petrology of Jurassic plutons in the eastern Transverse Ranges. After teaching for a year at Colorado State University, Dave returned to Los Angeles and is now Assistant Professor of Geological Sciences at CSULA. Dave teaches courses in field mapping, mineralogy, hard-rock petrology, and computers in geology, and supervises graduate student research. Dave currently co-directs two NSF-funded science programs and is active* in CSULA's science teacher preparation programs. *Dave is passionate about these NSF programs, which provide NSF Fellowships to graduate science students in exchange for working 10 hours per week in K12 science classrooms in the Los Angeles are, as well as providing instructional modules that have been used by over 3 million science educators and students to date*

Geologic mapping near Graham Pass in the Little Chuckwalla Mountains has revealed complex patterns of high-angle normal faulting and dike intrusion interpreted to have occurred in a sub volcanic setting. Local stratigraphy comprises Proterozoic and Mesozoic crystalline rocks overlain nonconformably by over 1 kilometer of Late Oligocene to Early Miocene sedimentary and volcanic rocks.

The Tertiary sequence, exposed over an area of 25 $km^2$, is a complex homocline that strikes N30°E and dips southeast between 10° and 45°. A set of normal faults strikes northwest and breaks the lower part of the homocline into several steep-sided grabens. The main graben is 1 kilometer wide and 450 meters deep, based on stratigraphic separation across bounding faults. Hypabyssal dacite and rhyolite dikes intruded the faults bounding the main graben. These dikes, part of a swarm that also includes andesite dikes, are up to 50 meters thick, and can be traced along strike for over 3 kilometers. The volcanic and sedimentary rocks within the main graben were subjected to intense hydrothermal alteration. The dikes fed eruptions of lava flows and pyroclastic deposits now exposed in the stratigraphically higher parts of the Tertiary sequence. Graben formation and dike intrusion were coeval, and record mid-Tertiary extension along a northeast-striking axis.

The Tertiary sequence and the older structures described above occupy the hanging wall of the Graham Pass fault, a steep, northeast-striking normal fault that roughly parallels Graham Pass Road. The southeast-dipping Graham Pass fault crosscuts the dike swarm, and therefore post-dates graben formation and dike intrusion. Striations on Graham Pass fault surfaces indicate dip-slip movement. Minimum dip separation is 500 meters

Dr. David Mayo

## Time & Place

### Time:

**Thursday, September 23, 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: | **$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 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

**July & August**
**No Meetings – Summer Field Season**

**September 23, 2004 – Dr. David Mayo**
**In the Roots of a Miocene Volcano, SE California**

**October 28, 2004 – Don Clarke – City of Long Beach Oil Properties**
**Faults and Faulting in the Willington Oil Field**

**November 18, 2004**
**TBA**

## Announcements / Information

### 2004 Student Recognition Awards Presented at the September meeting

The Los Angeles Basin Geological Society is pleased to present one scholarship award in 2004 as a form of encouragement and recognition to those College students who show dedication and passion to the field of Geoscience. It is our goal to help future geoscientists on in their pursuits. **This award consists of a Brunton Compass and a wall certificate and will be presented at our September meeting.**

### The LABGS Brunton Award

The 2004 recipient of the LABGS Brunton Award is **John Hartman** from California State University, Los Angeles. John is a senior and currently pursuing a B.S. in geology with plans to graduate next May. While at CSULA, John has achieved an excellent academic record. 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.

SELECTION PROCESS

The above award winner was selected from candidates nominated by a faculty member. The winner was 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

### The Don Clarke Brunton Award

Unfortunately, there is no recipient of The Don Clarke Brunton Award in 2004, due to a lack of qualified candidates. The Don Clarke Brunton Award is given annually to a qualified student graduating from an LA Basin Community College with an Associate Degree, enrolled in a Geology or Earth Science curriculum with plans to pursue a baccalaureate degree in Geology or the Earth Sciences. Hopefully, there will be qualified candidates in 2005.

Buy It Today

# 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 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).

**The cost of the CD version is $30.00 with proceeds going to the LABGS and PSAAPG. You can order directly from the PSAAPG web site at www.psaapg.org or you can purchase at an LABGS luncheon meeting.**

## Contents - Volume I

## 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


## 2004 LABGS Field Trip Examining the Catalina Schist and the Palos Verdes Peninsula was a great success!

**On Saturday June 26, thirty-five geologists attended the 2004 LABGS annual field trip. The Trip was led by Dick Brown and eight others whom contributed to the tour.** This trip utilized a bus and included lunch. Prices for the trip were $65.00, which included a copy of a road log and copy of the guidebook. **The guidebook is in the final stages of completion and will be available by the LABGS meeting on September 23, 2004. 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 September Meeting!**

## New Officers for 2004 -2005

The start of the current program year is here and it should be exciting as we will have a good group of persons with a desire to shape the future of the LABGS. Officers for 2004 – 2005 will be **Program Chairman – Dick Brown**, Consultant, **Secretary – Ivan Aburto**, Breitburn Energy (returning for a 3rd year); **Treasurer - Steve Zigan**, ERI (returning for a 2nd year); **Interim President – Dalton Lockman** (Returning until a replacement can be found). FYI - **Our board year / fiscal year runs from July to July**

## Contact Us – The LABGS board

President: Dalton Lockman (323) 298-2242
dlockman@plainsxp.com
Program Chair: Dick Brown (310) 544-9504
dickbrowngeo@adelphia.net
Secretary: Ivan Aburto (213) 225-5900, ext. 234
iaburto@breitburn.com
Treasurer: Steve Zigan, (949) 355-4467
szigan@eri-us.com

**OUR WEB SITE ADDRESS IS:**
www.labgs.org

## Renew Your Annual Dues

The Pacific Section AAPG and LABGS operate on a fiscal year from July 1 to September 30. If you are a current member, you will receive a PSAAPG membership renewal notice this month in the mail. Please note, when you renew you are renewing for both LABGS and PSAAPG (for one low price of $12).

If you haven't done so, take this opportunity to send in a check and update your mailing information. New directories will be printed in spring of 2005 and will be included in your dues for the next fiscal year (the directory is one of the key benefits of joining the LABGS through PSAAPG).

## 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

## 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***

# 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**