

ASSOCIATION OF ENGINEERING GEOLOGISTS

SOUTHERN CALIFORNIA SECTION

"Serving Professionals in Engineering, Environmental and Ground-Water Geology Since 1957"

September 1994

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The Newsletter Editor accepts news items, items of general interest, articles of any length, commentary, suggestions, complaints, etc. and will publish them (subject to space limitations) in the newsletter following their receipt. Longer works are preferred on a 3.5 or 5.25 inch floppy disk, formatted by nearly any DOS or Windows word processor, or ASCII text — I use WordPerfect 6.0 and can convert from most other formats. Disks will be returned if requested.
Deadline for submittal to the October newsletter: September 21

THIS MONTH'S MEETING

Joint meeting with the South Coast Geological Society (SCGS)
Monday, September 12, 1994

BLIND THRUST FAULTS AND EARTHQUAKE HAZARDS AROUND THE CENTRAL LOS ANGELES BASIN

presented by

DR. JOHN H. SHAW

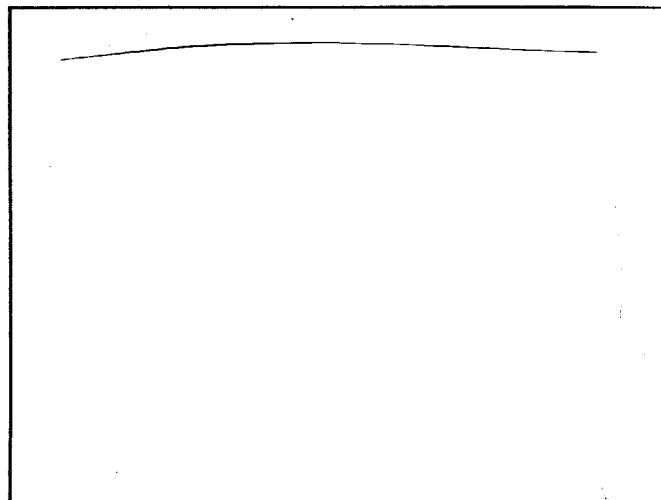
Reservations must be made by noon, Friday, September 9, 1994
by calling Leighton & Associates at (714) 250-1421
Please call to cancel if you can't attend, or SCGS will be billed!

Cost: \$20.00

Map to Meeting

Revere House
901 First Street
Tustin, CA

6:00 *Social Hour*
7:00 *Dinner*
8:00 *Program*



SEPTEMBER PROGRAM

Blind-Thrust Faults and Earthquake Hazards Around the Central Los Angeles Basin

John H. Shaw

Texaco Exploration and Production Technology Department
3901 Briarpark, Houston, Texas 77042

Several recent earthquakes in California, including the M 6.0 Whittier Narrows (1987) and M 6.7 Northridge (1994) events, demonstrate the potential of dangerous earthquakes on blind-thrust faults around the greater Los Angeles area. *Blind-thrusts* are dip-slip faults that do not cut the earth's surface. Nevertheless, they have near-surface expressions in the form of overlying fold trends that grow during large earthquakes and, in areas of deposition, stratigraphically record rates of folding and fault slip. In the past decade, the development and testing of quantitative relationships between folding and faulting and analyses of recent blind fault earthquakes enable us to assess better the hazards of blind-thrust faults. Quantitative kinematic and geometric modeling of fault-bend folds allows us to examine near-surface folds imaged in seismic reflection profiles, which are analogous to sonograms of the earth's crust, and infer the location, geometry, and slip rate of underlying blind-thrust faults. As a result, we have recognized and documented several active blind-thrust faults around the central Los Angeles basin, including the massive *Compton-Elysian Park blind-thrust system*. The Compton-Elysian Park system extends from



beneath downtown Los Angeles southwest toward Palos Verdes and southeast to the Santa Ana River. Based on the size and shape of the fault system, we predict that it is capable of generating several moderate-sized earthquakes similar to Northridge (M 6.7) or, alternatively, a single, much larger event exceeding M 7.3. We estimate individual repeat times for these moderate and large events ranging from 150 to 2,000 years.

John H. Shaw received a Ph.D. in structural geology and applied geophysics from Princeton University, where his research focused on the neotectonics of blind-thrust faulting in California. Dr. Shaw investigates active blind thrusts and their earthquake potential through the development and application of theories that relate these deeply buried faults to overlying fold trends that are imaged in the shallow subsurface. John is presently at Texaco's Exploration and Production Technology Department in Houston, Texas, and has recently published several articles on blind-thrust faulting and earthquake potential in coastal southern California, including the Santa Barbara and Los Angeles areas. ϕ

CHAIRMAN'S COLUMN

At our
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by bulk

mailing (next newsletter ?) so a larger newsletter will not cost significantly more. We would appreciate any contributions to the newsletter concerning news of members activities, legislative and regulatory activities, job offers, letters to the editor, etc., so send in your material.

Secondly, we need to increase our activities with regard to education, communication, and legislation. We need to educate our clients, politicians, bureaucrats, and school children about our profession and what we

can do for them and society in general. If we really believe that we practice to "protect the health, safety, and welfare of the public" we should be able to demonstrate this and improve our public image. Think about what you personally can do to help out. We also need to continually educate ourselves through short courses, so let us know what courses you would like to take or volunteer to teach one.

We need to establish better communication among the many local geological societies in California. As geologists we have tended to be too fragmented and individualistic with our efforts when we could accomplish more as a group. While we all have many differences of opinion, I believe that we have more in common than most people believe. We need to determine our common goals and work together on achieving those goals, while setting aside the differences for friendly discussion over a beer. In an effort to promote more communication among the societies this newsletter is now sent to the leader of each group with the hope that they will reciprocate. This way we will at least know what the other societies are doing and can pass along the information to our respective members.

Many geologists have expressed their opinion that they became scientists so that they would never have to deal with politics. I hope to change your minds. Our registration board is under attack and threatened with sunseting, other professionals are intruding into our turf, notably the Registered Environmental Assessors, and our state legislators barely know that we exist and some see no down side in ignoring us. We can change this by becoming involved and the most effective way is at the grass roots level by writing letters and making phone calls. A list of our representatives is presented in this newsletter. We will update the list in January. We want each member to write letters to their legislators and vote at each state and national election.

I would also like to develop a rapid response group that could contact their legislators within a short time after being notified. To have meaningful input in Sacramento at the committee level we must often react in a couple of days or a week. If each member of the response group would call three other members, and if each would write to five legislators we can be effective. If you are interested, and I hope all of you see the necessity, please contact me or Hugh Robertson.

Certification of Hydrogeologists in California is now a reality. However, you will have to pass a test before you can use the title. Since this specialty certification was created by regulation through our Board and not by the legislation process with a bill, there will be no grandfathering. The first test is planned for next March. Members should be aware that they are no longer allowed to call themselves hydrogeologists (at least in California), advertize themselves as such, or offer those services until they become certified. If you have questions on this matter, call the Board at (916) 445-1920.

Our Board of Registration is coming closer to having cite and fine disciplinary authority. The presently proposed wording of the regulation is included later in this newsletter. Since the comment period for the proposed changes ended August 31, we have not included what those changes were due to space limitations. Once this regulation has passed please note that you may be fined \$500 to \$2500 for calling yourself a hydrogeologist without the certification, so be forewarned.

SB 2036 has passed the legislature and is awaiting signature by the governor. This bill would require our Board to justify its existence or be sunsetted. This means our Board will be busy with the legislators, and not on matters that are more useful to us and the public, namely registration tests and enforcement activities. A related bill, SB 2038, was amended so that the Geology Board will not be combined with the Engineer's Board, as was originally proposed in the bill.

The current version of SCR 45 is presented later in this newsletter. It was passed by the legislature on August 29 and is now effective. This resolution is a proactive measure to require the State Personnel Board (SPB) to report on why they do not require registration and certification for those employed as engineering geologists with State agencies. The SPB has 180 days to respond with a report. According to Phil Chandler (1994 AEG Annual Meeting abstracts, pg. 42) one state agency has "concluded an agreement with the SPB to create a new class series--Hazardous Substance Engineering Geologist--which still does not include any registration requirement...". This may be an attempt to bypass SCR 45. We'll have to wait and see.

AB 2780, the Home Inspection Bill, was passed by the Assembly, but defeated in the Senate. This bill would have required certifi-

cation for home inspectors. The civil engineering community had opposed this bill.

Our Section lost 1% of our membership last year. We need to grow. I would like each of you to recruit one new member. Better yet, make it two. The next time you are talking to a colleague try selling our organization. Tell them why you joined and point out the benefits of membership. If you are hiring a geologist why not hire those that have demonstrated sufficient interest in their profession by becoming AEG members? You can call headquarters or our membership chairperson, Deems Padgett, and get applications, then hand them out. Do it.

The Dr. Martin Stout/ AEG-SCS Scholarship has grown to \$12,425. Recent contributors include Monte and Diane Murbach, Eldon Gath, and Robertson Geotechnical. We will accept contributions anytime so please consider making a donation. The scholarship will be announced in the Spring AEG News and awarded next summer.

For your information the Insurance Institute for Property Loss Reduction's UPDATE newsletter (v. 3, #2, 1994) indicates that the insurance industry has a new system for "measuring the value of an individual community's building code enforcement efforts." It is called the Building Code Effectiveness Grading Schedule (BCEGS). Each community will be given a grade from 1 to 10 on the effectiveness of enforcement so that the insurance companies will have a tool for setting rates. Hopefully, this will provide the impetus for quality control that is needed in so many building and safety departments.

There will be no October section meeting due to the Annual Meeting in Williamsburg, Virginia. I hope to see many of you at the annual meeting, but I realize it is a long distance away. However, next year's meeting is in Sacramento and the Sacramento Section is looking for volunteers. If you would like to help, please call James Parsons at (916) 424-4950.

And lastly, our Section needs volunteers. The two major vacancies are the Field Trip and Short Course Committees. If these committees look like a lot of work, they are, but the work is rewarding. If you do not think you can do the job because of inexperience you are wrong. These are the committees that many of our present and former officers starting in on their way to the top, at least of our Section. The work is a lot of fun, try it. If you are interested, please call me or another officer.

Our November meeting will be at the

Airtel Hotel in Van Nuys so I hope to see you there. ϕ

LETTERS

The purpose of this column is to provide a forum for AEG Members (and other concerned citizens). Use this column to share your opinions on any topic - as long as it is in some way related to our work. Letters may contain commentary, suggestions, appreciation, complaints, reviewing agencies (I'm fair game too!), Government policy, etcetera, etcetera.

You know the old saying: if you have five geologists in a trench you'll get ten different opinions (well, maybe 15). Let's hear 'em! (names will be withheld if requested).

I would particularly like to see letters from professionals outside of the greater LA area. This isn't the center of the world (although some might have you believe that it is), so let's hear what's happening in your area.

Send letters to Charles Nestle, AEG Newsletter Editor, 6224 West 82nd Street, Los Angeles, CA 90045-2901, or via e-mail at ctnestle@aol.com. ϕ

NEWS

Since July 1, 1991, the Los Angeles County Department of Public Works, Materials Engineering Division, has charged fees for the review of private consultant's reports. Fees are collected for the review of



all geotechnical reports, including reports for tentative subdivisions, building plans, in-grading, rough or final grading, and addendum reports. The report review fees are in addition to those collected for the review of maps and plans, such as those collected by the Department of Regional Planning for

subdivision maps or by the Building and Safety/Land Development Division of the Department of Public Works for grading and building plan checks. The current geotechnical review fees for reports and building plans are as follows:

Engineering Geology Report:\$271.60
Soils Report:\$271.60
Geotechnical Report (Combined
Geology & Soils Report):\$380.20
Minor Addenda &
In-Grading Reports:\$141.00
Geology Review of Building
Plan/Site:\$271.60
Fees for geotechnical review of grading
plans are based on yardage. These fees are
charged at the time of submittal to the re-
viewing agency.

Review time delays can be avoided if the fees are paid at the time of submittal. ϕ

FROM THE EDITOR

Transferring the job of newsletter editor to myself did not occur without its complications. Not the least of the difficulties was that the previous Macintosh-generated newsletter was not compatible with my PC which necessitated starting from scratch, and ultimately resulted in a complete redesign of the newsletter format.

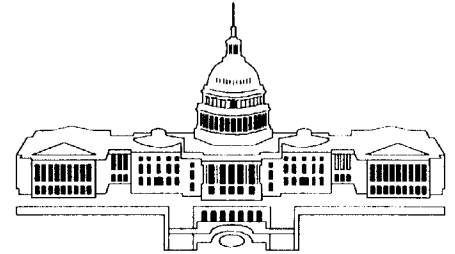
Two of the most serious problems I have had involve the membership mailing list and the currently paid for advertisements.

Previously, the membership mailing list was maintained by the Section Secretary who would send the presumably updated mailing labels to the newsletter editor each month. Despite the efforts of the Secretary, several newsletters are "returned to sender" each month, unable to be delivered. It is absolutely critical for the members to notify the National AEG, the local section Secretary, AND the newsletter editor of a change of address if you wish to receive the newsletter. The mailing list that I have used is based largely on the 1994 Membership Directory Published in the AEG Bulletin, with some corrections provided by Dave Ebersold, and others provided to me directly by individual members. If you should have received a newsletter and did not, I offer my apologies, and hope you will call or write to me and let me know.

To the businesses that were expecting to see their ad in this newsletter and discover that none are to be found, I also offer my

apologies, and will extend the contract one additional issue. I will be contacting you within the next couple of weeks to discuss your ad which will appear in the next issue. Or, if you like, you may contact me at your convenience.

Lastly, the delivery of this newsletter was unfortunately delayed through no one's fault but my own. The next, and all future newsletters, will arrive on, or about, the first of the month. Please note the submittal deadline on the front page of this newsletter; it is a firm date. ϕ



POLITICAL SCENE

On April 7, 1994, Senator Rogers introduced Senate Concurrent Resolution No. 45—Relative to engineering geologists. It was on June 29 and again on August 8, 1994. The text of SCR 45 follows, minus the lined-out text. If you would like a copy of the complete text, including that lined-out, write or call the newsletter editor and a copy will be provided.

LEGISLATIVE COUNSEL'S DIGEST

SCR 45, as amended. Rogers. Engineering geologists. This measure would request the State Personnel Board and the Department of Personnel Administration to review the civil service classification for an engineering geologist and ensure that the position is used in compliance with the Geologist and Geophysicist Act, and to report to the Legislature within 180 days of the Adoption of this measure.

Fiscal committee: yes.

WHEREAS, It is the intent of the Legislature to safeguard the life, health, property, public welfare, and the environment of the citizens of the state; and

WHEREAS, To that end the state employs in numerous agencies engineering geologists as defined in the Geologist and Geophysicist Act (Chapter 12.5 (commencing with Section 7800) of Division 3 of the

withdrawn and a new citation issued. If a hearing is requested for the subsequent citation, it shall be requested in writing within 30 days of issuance of the subsequent citation in accordance with subsection (b)(4) of Section 125.9 of the Business and Professions Code.

(e) If, within 30 days of the date of issuance of the citation, the person cited has failed to file a written request to appeal the Executive Officer, the Citation shall be deemed a final order.

3062.3 Failure to Comply with Order

(a) The failure of an unregistered/unlicensed person acting as a geologist, geophysicist, or certified specialist to comply with a citation and/or pay a fine after it is a ground for denial of registration and/or license.

(b) Notwithstanding any other provisions of the law, the Executive Officer may waive all or part of the administrative fine if the cited person satisfactorily completes all the requirements for, and is issued, a registration and/or license. Any outstanding injury to the public shall be settled to the satisfaction of a majority of the Board members prior to issuance of the registration or license.

3062.4 Disconnection of Telephone Service

(a) If, upon investigation, the Executive Officer has probable cause to believe that an unlicensed individual acting in the capacity of a geologist, geophysicist or certified specialist, who is not otherwise exempted from the provisions of the Geologist and Geophysicist Act, has violated any provisions of the Geologist and Geophysicist Act and is advertising in an alphabetical or classified directory, without being properly registered, licensed or certified, the Executive Officer may issue a citation under Section 3062 containing an order of which requires the cited person to both cease the unlawful advertising and notify the telephone company furnishing services to the cited person to disconnect the telephone services furnished to any telephone number contained in the unlawful advertising, and that subsequent calls to that number shall not be referred by the telephone company to any new telephone number obtained by that person. The cited person shall provide written evidence of compliance to the Executive Officer.

(b) If the person to whom a citation is issued under subdivision (a) submits a written request to the Executive Officer for a hearing to appeal the citation, the Executive Officer may afford an opportunity for a

hearing, as specified in Section 3062.2.

(c) If the person to whom a citation and order of abatement is issued under subdivision (a) fails to comply with the order of abatement after the order is final as provided in Section 3062.2, the Executive Officer shall inform the Public Utilities Commission of the violation in accordance with Business and Professions Code section 149.

3063 Citations of Registered/Licensed Persons

(a) The Executive Officer is authorized to issue citations containing orders of abatement and/or administrative fines pursuant to Business and Professions Code section 125.9

(b) If the Executive Officer has reasonable cause to believe that a geologist, geophysicist or certified specialist has committed any act or omission where the licensee is in violation of the Geologist and Geophysicist Act, the Executive Officer may, in lieu of filing an accusation, issue a citation to the registrant or licensee.

(c) Each citation for violation shall be in writing and shall describe with particularity the basis of the citation, including specific reference to the provision of law determined to have been violated.

(d) Each citation may contain: (1) an order of abatement, which may include the fixing of a reasonable time for abatement of the violation; and/or (2) an assessment of an administrative fine in an amount not more than two thousand five hundred dollars (\$2,500).

(e) Service of a citation issued under this section shall be made by certified mail to the registrant's address of record and shall include information regarding appeal rights and copies of the applicable code sections violated.

3063.1 Assessment of Administrative Fines

(a) Before assessing an administrative fine under section 3063, the Executive Officer shall give due consideration to the gravity of the violation, the good faith of the cited person, and the history of previous violations.

(b) In no event shall the administrative fine be assessed in an amount greater than two thousand five hundred dollars (\$2,500) for each inspection or each investigation made with respect to the violation.

(c) In determining the amount of an administrative fine against a cited individual, the Executive Officer shall be bound by the following prescribed amounts [for each

violation cited]: [editor's note: as with Section 3062, the fine prescribed for each violation is cited as a range from \$500 - \$2,500] Use of Expired, Suspended, or Revoked License; Practice or Attempts to Practice Civil Engineering; Geologist Who Practices or Attempts to Practice Geophysics for Others; Committed Deceit, Misrepresentation, Violation of Contract, Fraud, Negligence, Incompetence in Practice; Aiding and/or Abetting in the violation of Any Provision of the Geologist and Geophysicist Act; Presents or Attempts to File as His/Her Own the Certificate of Another; Impersonates or Uses the Seal of Any Other Practitioner; Uses Expired or Revoked Certificate of Registration; and Violation of Any Provision of the Geologist and Geophysicist Act.

3063.3 Appeal of Citations

(a) Any geologist, geophysicist or certified specialist served with a citation pursuant to Section 3063, may submit a written request for appeal to the Executive Officer within 30 days of the date of issuance of the citation. The cited person, also, may submit a written request within 30 days of the date of issuance of the citation for an informal conference with the Executive Officer with respect to violations alleged, abatement periods, amount of fines, and the reasonableness of the action required to abate the violation.

(b) The Executive Officer shall, within 30 days from receipt of the request, hold an informal conference with the person cited and/or his or her legal counsel or authorized representative. The 30 day period may be extended by the Executive Officer for good cause. At the conclusion of the informal conference, the Executive Officer may affirm, modify, or dismiss the citation, including any administrative fine levied or order of abatement issued. The Executive Officer shall state in writing the reasons for his or her action and serve a copy of the findings and decision to the cited person within 30 days from the date of the informal conference. Service may be made by certified mail at the last known business address or residence address of the person cited. The decision shall be deemed to be a final order of the Executive Officer.

(c) If the geologist, geophysicist or certified specialist cited submits a written request for a hearing to appeal the citation within 30 days of the citation's issuance, the cited person shall be afforded an opportunity for a hearing, as provided for in subsection

(b)(4) of section 125.9 of the Business and Professions Code.

(d) The cited person does not waive his or her right to request a hearing to appeal the citation by requesting an informal conference, after which conference the citation is affirmed by the Executive Officer. If the citation is dismissed after the informal conference, the request for a hearing on the matter of the citation shall be deemed to be withdrawn. If the citation is modified, the citation originally issued shall be considered withdrawn and a new citation issued. If a hearing is requested for the subsequent citation, it shall be requested in writing within 30 days of issuance of the subsequent citation in accordance with subsection (b)(4) of Section 125.9 of the Business and Professions Code.

(e) If, within 30 days of the date of issuance of the citation, the geologist, geophysicist or certified specialist cited has failed to file a written request to appeal the citation with the Executive Officer, the citation shall be deemed a final order.

3063.4 Failure to Comply with Citations

(a) The failure of a geologist, geophysicist or certified specialist to comply with a citation and/or pay a fine after it is final is grounds for suspension or revocation of a registration and/or license.

(b) If a geologist, geophysicist or certified specialist does not appeal a citation and fails to pay all of the fine, the balance due for the fine shall be added to the renewal fee for the registration and/or license and the registration and/or license shall not be renewed until the fine is paid in full pursuant to subsection (b)(5) of Section 125.9 of the Business and Professions Code.

Questions should be directed to the State Board of Registration for Geologists and Geophysicists at (916) 445-1920. ϕ

The following is a list of addresses and phone numbers at which you can contact the president, vice president, governor, representatives in congress, and state legislators. This is only a partial list and will be augmented and updated after the November elections (data source: Daily News). The newsletter editor greatly appreciates the generosity of Christopher Sexton for allowing his computer to tie up the local phone lines while depositing the complete roster of the California State Senate and Assembly into

my computer.

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Anthony Ballenson, D-24th District

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Howard McKeon, R-25th District

307 Cannon Office Building
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(202) 225-1956

Howard Berman, D-26th District

137 Cannon House Office Building
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(202) 225-4695

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Vacant, 2nd District

Milton Marks, D-3rd District

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Mike Thompson, D-4th District

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Pat Johnston, D-5th District

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Leroy Greene, D-6th District

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Henry Mello, D-15th District

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Vacant, 16th District

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Vacant, 32nd District

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Sacramento, CA 96814
(916) 445-6767

Stan Statham, R-2nd District

4098 State Capitol
Sacramento, CA 96814
(916) 445-7266

Bernie Ricter, R-3rd District

4208 State Capitol
Sacramento, CA 96814
(916) 445-7298

David Knowles, R-4th District

5175 State Capitol
Sacramento, CA 96814
(916) 445-8343

Barbara Alby, R-5th District

4116 State Capitol
Sacramento, CA 96814
(916) 455-4445

Vivian Bronshvag, D-6th District

4139 State Capitol
Sacramento, CA 96814
(916) 445-7783

Valerie Brown, D-7th District

2130 State Capitol
Sacramento, CA 96814
(916) 445-8492

Tom Hannigan, D-8th District

3104 State Capitol
Sacramento, CA 96814
(916) 445-8368

Phillip Isenburg, D-9th District

6005 State Capitol
Sacramento, CA 96814
(916) 445-1611

Larry Bowler, R-10th District

3147 State Capitol
Sacramento, CA 96814
(916) 445-7402

Robert Campbell, D-11th District

2163 State Capitol
Sacramento, CA 96814
(916) 445-7890

John Burton, D-12th District

3152 State Capitol
Sacramento, CA 96814
(916) 445-8253

Willie L. Brown, Jr., D-13th District

219 State Capitol
Sacramento, CA 96814
(916) 445-8077

Tom Bates, D-14th District

446 State Capitol
Sacramento, CA 96814
(916) 445-7554

Richard K. Rainey, R-15th District

4015 State Capitol
Sacramento, CA 96814

STATE ASSEMBLY

Dan Hauser, D-1st District

2003 State Capitol
Sacramento, CA 96814
(916) 445-8360

(916) 445-6161

Barbara Lee, D-16th District

4146 State Capitol
Sacramento, CA 96814
(916) 445-7442

Dean Andal, R-17th District

4167 State Capitol
Sacramento, CA 96814
(916) 455-7931

Johan Kiehs, D-18th District

2013 State Capitol
Sacramento, CA 96814
(916) 445-8160

Jackie Speier, D-19th District

4140 State Capitol
Sacramento, CA 96814
(916) 445-8020

Delanie Eastin, D-20th District

3013 State Capitol
Sacramento, CA 96814
(916) 445-7874

Byron D. Sher, D-21st District

2136 State Capitol
Sacramento, CA 96814
(916) 445-7632

John Vasconcellos, D-22nd District

6016 State Capitol
Sacramento, CA 96814
(916) 445-4253

Dominic L. Cortese, D-23rd District

6031 State Capitol
Sacramento, CA 96814
(916) 445-8243

Charles W. Quackenbush, R-24th District

4130 State Capitol
Sacramento, CA 96814
(916) 445-8305

Margaret E. Snyder, D-25th District

5144 State Capitol
Sacramento, CA 96814
(916) 445-7906

Sal Cannella, D-26th District

5155 State Capitol
Sacramento, CA 96814
(916) 445-8570

Bruce McPherson, R-27th District

4017 State Capitol
Sacramento, CA 96814
(916) 445-8496

Rusty Areis, D-28th District

5136 State Capitol
Sacramento, CA 96814
(916) 445-7380

Bill Jones, R-29th District

5160 State Capitol
Sacramento, CA 96814
(916) 445-2931

Jim Costa, D-30th District

2158 State Capitol
Sacramento, CA 96814
(916) 445-7558

Cruz M. Busamante, D-31st District

4144 State Capitol
Sacramento, CA 96814
(916) 445-8514

Trice Harvey, R-32nd District

4162 State Capitol
Sacramento, CA 96814
(916) 445-8498

Andrea Seastrand, R-33rd District

3141 State Capitol
Sacramento, CA 96814
(916) 445-7795

Kathleen Honeycutt, R-34th District

4009 State Capitol
Sacramento, CA 95814
(916) 445-8102

Jack O'Connell, D-35th District

3160 State Capitol
Sacramento, CA 95814
(916) 445-8292

W.J. "Pete" Knight, R-36th District

4005 State Capitol
Sacramento, CA 95814
(916) 445-7498

Nao Takasugi, R-37th District

2016 State Capitol
Sacramento, CA 95814
(916) 445-7827

Paula Borland, R-38th District

3098 State Capitol
Sacramento, CA 95814
(916) 445-8366

Richard Katz, D-39th District

3146 State Capitol
Sacramento, CA 95814
(916) 445-1616

Barbara Feldman, D-40th District

5150 State Capitol
Sacramento, CA 95814
(916) 445-7644

Terry Friedman, D-41st District

2141 State Capitol
Sacramento, CA 95814
(916) 445-4956

Burt Margolin, D-42nd District

4112 State Capitol
Sacramento, CA 95814
(916) 445-7440

James Rogan, R-43rd District

4164 State Capitol
Sacramento, CA 95814
(916) 445-8364

Bill Hoge, R-44th District

4177 State Capitol
Sacramento, CA 95814
(916) 445-8211

Richard Polanco, D-45th District

2188 State Capitol
Sacramento, CA 95814
(916) 445-7587

Louis Caldera, D-46th District

2148 State Capitol
Sacramento, CA 96814
(916) 445-4843

Gwen Moore, D-47th District

2117 State Capitol
Sacramento, CA 96814
(916) 445-8800

Margurite Archie-Hudson, D-48th District

5016 State Capitol
Sacramento, CA 96814
(916) 445-2363

Diane Martinez, D-49th District

5119 State Capitol
Sacramento, CA 96814
(916) 445-7852

Martha M. Escutia, D-50th District

4126 State Capitol
Sacramento, CA 96814
(916) 445-8188

Curtis R. Tucker, Jr., D-51st District

4016 State Capitol
Sacramento, CA 96814
(916) 445-7533

Willard Murray, D-52nd District

3091 State Capitol
Sacramento, CA 96814
(916) 445-7486

Debra Bowen, D-53rd District

3126 State Capitol
Sacramento, CA 96814
(916) 445-8528

Betty Karnette, D-54th District

5158 State Capitol
Sacramento, CA 96814
(916) 445-9234

Juanita McDonald, D-55th District

2196 State Capitol
Sacramento, CA 96814
(916) 445-3134

Bob Epple, D-56th District

4126 State Capitol
Sacramento, CA 96814

(916) 445-6047

Hilda L. Solis, D-57th District

4117 State Capitol
Sacramento, CA 96814
(916) 445-7610

Grace F. Napolitano, D-58th District

6011 State Capitol
Sacramento, CA 96814
(916) 445-0965

Richard Mountjoy, R-59th District

2175 State Capitol
Sacramento, CA 96814
(916) 445-7234

Paul V. Horcher, R-60th District

3123 State Capitol
Sacramento, CA 96814
(916) 445-7550

Fred Aguilar, R-61st District

5126 State Capitol
Sacramento, CA 96814
(916) 445-1670

Joe Baca, D-62nd District

5128 State Capitol
Sacramento, CA 96814
(916) 445-7454

James L. Bruite, R-63rd District

2114 State Capitol
Sacramento, CA 96814
(916) 445-8490

Ted Weggeland, R-64th District

2174 State Capitol
Sacramento, CA 96814
(916) 445-0854

Paul Woodruff, R-65th District

5164 State Capitol
Sacramento, CA 96814
(916) 445-7552

Ray Haynes, R-66th District

4158 State Capitol
Sacramento, CA 96814
(916) 445-1676

Doris Allen, R-67th District

4153 State Capitol
Sacramento, CA 96814
(916) 445-6233

Curt Pringle, R-68th District

4164 State Capitol
Sacramento, CA 96814
(916) 445-8377

Tom Umberg, D-69th District

448 State Capitol
Sacramento, CA 96814
(916) 445-7333

Gil Ferguson, R-70th District

5135 State Capitol
Sacramento, CA 96814
(916) 445-7222

Mickey Conroy, R-71st District

4102 State Capitol
Sacramento, CA 96814
(916) 445-2778

Ross Johnson, R-72nd District

3151 State Capitol
Sacramento, CA 96814
(916) 445-7448

Bill Morrow, R-73rd District

2111 State Capitol
Sacramento, CA 96814
(916) 445-7676

Robert Frazee, R-74th District

6028 State Capitol
Sacramento, CA 96814
(916) 445-2390

Jan Goldsmith, R-75th District

2002 State Capitol
Sacramento, CA 96814
(916) 445-2484

Mike Gotch, D-76th District

3120 State Capitol
Sacramento, CA 96814
(916) 445-7210

Tom Connoly, D-77th District

2176 State Capitol
Sacramento, CA 96814
(916) 445-3266

Dede Alpert, D-78th District

3173 State Capitol
Sacramento, CA 96814
(916) 445-2112

Vacant, 79th District

Julie Bornstein, D-80th District

2179 State Capitol
Sacramento, CA 96814
(916) 445-5416

CONTINUING EDUCATION

The following courses are being offered through UCLA Extension for Fall Quarter 1994. The quarter begins September 24. Enrollment registration is available in person at: Westwood/Extension Bldg., 10995 Le Conte Ave.; Design Center, 1338 3rd Street Promenade, Santa Monica; Universal Citywalk, 1000 Universal Center Drive, Universal Citywalk, #223; World Trade Center, 350 south Figueroa Street, Los Ange-

les. Registration is also available by phone at (310) 825-9971 or (818) 784-7006. (source: UCLA Extension Fall Catalogue)

Earthquakes

XL 8 Earth & Space Science 4 units \$260
Earthquake! The word evokes a sense of fear and concern to many who live in California, one of the more seismically active areas in the world. What actually causes earthquakes? Why are earthquakes limited to certain to certain geographic areas? Is it possible to predict or control earthquakes and how do we measure them? What are some events that precede an earthquake? These and many other questions are answered in this course. Special emphasis is placed on how we can protect ourselves from earthquake hazards in southern California and what geologists, seismologists, and structural engineers have learned through studying southern California earthquakes, such as the 1857 Fort Tejon, 1933 Long Beach, 1971 San Fernando, 1987 Whittier Narrows, 1992 Landers and Big Bear earthquakes, and the 1994 Northridge earthquake and its multiple aftershocks. *Students have the opportunity for a one-day carpool field trip to observe numerous geologic features along the San Andreas fault on a date to be arranged in class.*

Reg# G7115B

UCLA: 6704 Geology

Tuesday, 7-10pm

September 27 - December 13, 12 meetings

Katherine Barrows, PhD, lecturer, CSU Dominguez Hills

The Natural and Cultural History of the Santa Monica Mountains

X 413 Earth & Space Science 2 units
\$165/\$155/\$45

(Includes two field trips by bus from Westwood)

Explore the complex geology of this area as you view southern California's native wildlife, still surviving in an "island" protected from urban encroachment. This lecture and field course begins with a one-day symposium — in which experts discuss the geology and natural history of the Santa Monica Mountains as well as the early history of the Chumash Indians in the area — followed by two one-day trips by bus to explore the plants, animals, and complex geology of these beautiful mountains. Includes guest speakers.

Reg# G7117B \$165 (Credit)

Reg# G7118B \$155 (Noncredit)

