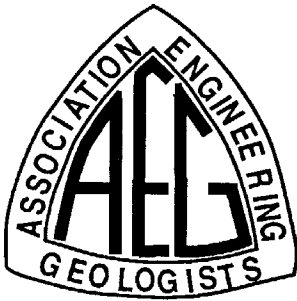


# Association of Engineering Geologists



SOUTHERN CALIFORNIA SECTION

## NEWSLETTER - February 1989

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2550 Beverly Blvd.  
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Dinner Meeting **Monday February 6th** in Tustin  
Annual Joint Meeting with the  
SOUTH COAST GEOLOGICAL SOCIETY

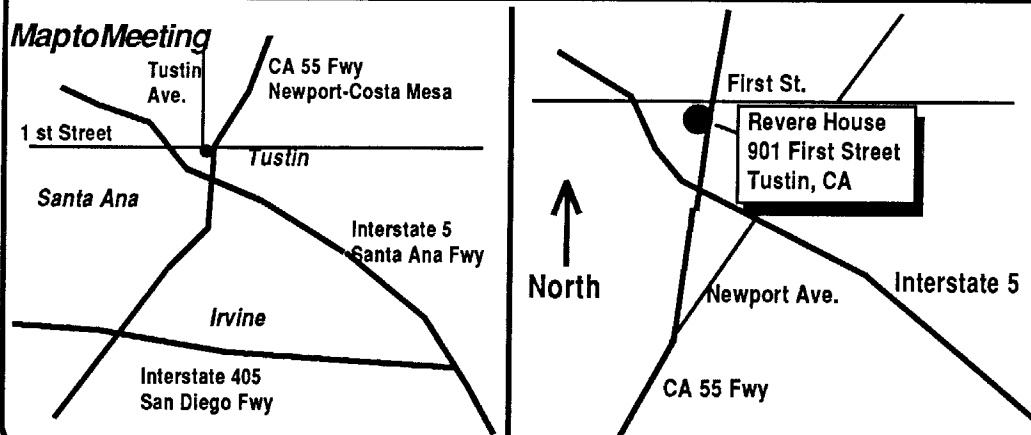
- Monday, February 6, 1989
- Revere House  
901 First Street  
Tustin, California
- Cost - \$17.00
- Reservations Not Required
- 6:00 Social Hour  
7:00 Dinner  
7:45 Announcements
- 8:00 to 9:00-9:30 Speaker

### Program

**TOPIC** Planning Scenarios for a Major Earthquake  
on the Newport-Inglewood Fault Zone

**SPEAKER** Dr. Tousson Topozada, Senior Seismologist  
California Division of Mines and Geology

### Map to Meeting



# Program

## Topic & Speaker

**Planning Scenario for a Major Earthquake on the Newport-Inglewood Fault Zone (NIFZ).**

**Dr. Tousson Toppozada, CDMG**

Subsurface faulting is postulated on a 45 mile extent of the NIFZ from near Beverly Hills to offshore Laguna Beach. The resulting earthquake has magnitude about 7, and average fault displacement of 3 feet. The possible impact on lifelines is discussed for use in planning emergency response procedures.

**Dr. Toppozada** is a Senior Seismologist with the California Division of Mines and Geology. He has a B.S. in Geology & Physics from Cairo University and a Ph.D. in Geoscience from the New Mexico Institute of Mining and Geology. His interest include interpretation of earthquake history for assessment of hazards.

Major earthquake activity along the Newport-Inglewood Fault is probably the most serious threat to the economy of the Southern California. An event within this highly concentrated population center will likely disrupt necessary utilities and cause social and ecological problems that may take years to recover.

This is the second time within the last year that **Dr. Toppozada** has been scheduled to appear before a joint meeting with the **South Coast Geological Society** and the **Southern California Section of AEG**. The previous appearance was canceled because insufficient time was allowed for the presentation to be approved by the Governor's Office.

San Diego County AEG members may find the program interesting relative to the implications of a Planning Scenario in the San Diego Metropolitan Area as a result of a major earthquake along the Rose Canyon Fault.

THIS MONTH

February 1989



Kelly E. Rowe  
Hydrogeologist

AEG SCS meetings in the next few months offer some excellent updates to engineering geological activities and advancements in the Southern California area.

This month **Dr. Toppozada** will discuss **Earthquake Planning on the NIFZ**. The meeting will be held in **Tustin, at Revere House**. It is possibly the only meeting of the AEG SCS this year which will save the San Diego area members 2 hours of driving.

Next month (March 15th) will be the annual joint AEG meeting with **ASCE Geotechnical Group** tentatively scheduled at **Stevens Steak House** in the City of Commerce. The program will demonstrate the **Engineering Tunnelling and Shoring Aspects of the Metro-Rail Project**, presented by **Jerry Diaz**.

On **April 11**, **Dr. Lorne G. Everett**, from Santa Barbara, will be the featured program speaker at our regular 2nd Tuesday of the month meeting at the **Quiet Cannon Restaurant** in Montebello. **Dr. Everett** is well known for his unsaturated zone groundwater work and will discuss what he knows of the **Recent Advances in Vadose (Unsaturated) Zone Monitoring**.

Last month **Dr. Stout** had a dual screen/slide show of the **Blackhawk Canyon geology**. The many recorded observations demonstrated that the slope movement, e.g., the **Blackhawk Landslide**, is greatly influenced by the geology and geomorphology of the canyon. By not recognizing earlier landslides and other geological evidence in the area, previous investigators' conclusions regarding the evolution of the **Blackhawk Landslide** through the "air-raftering" model is disputed.

Several announcements were made during the January meeting by **Howard G. (Buzz) Spellman** the President of the California State Board of Registration for Geologists and Geophysicists. 1) Results from the September 1988 Exams will be confirmed February 21. 2) The Board will consider developing a brochure which describes the roles of what the State Board, Geologists and Geophysicists do for distribution to the public in May 1989. 3) The Board wants to reinstitute the routine of 2 exams per year beginning in 1990. 4) The Board will publish a directory of geologists and geophysicists who are registered with the Board after September 1988. 5) Application fees may be increased soon, renewal fees may be increased by 1992. 6) There is a consensus of opinions gathered by the Board over the last few years which indicates that the Board will not develop a registration for the field of "Hydrogeology". It is presently concluded that the field of hydrogeology has been and will continue to be a discipline of Engineering Geology. There is therefore no need to isolate it as a separately registered profession.

## Seminars/Meetings/Field

### JANUARY 1989

31 -2/2 Theory and Practice of Ground Water Monitoring and Sampling. San Diego, CA. CONTACT: NWWA, 6375 Riverside Dr., Dublin, OH 43017 (614)761-1711.

30 -2/4 21st Annual - Fundamentals of Shallow Foundation Design. Orlando, FL CONTACT: Engineering Continuing Education U. of Missouri-Rolla (314)341-4200.

### FEBRUARY 1989

You can still start some classes in UC Irvine's Winter 1989 Toxic and Hazardous Substances Program including: One-Day Seminars and a Certificate Program for Hazardous Materials Management(HMM). University Extension (HMM Program classes are 5 Meetings total-afternoon and evening)Pacific Mut. Training Ctr. 17330 Brookhurst, Fountain Valley. CONTACT: UCI Univ. Extension program. Some good classes for engineering geologists and hydrogeologists (714)856-5414

6-10 13th Annual - Fundamentals of Deep Foundation Design. Orlando, FL CONTACT: Engineering Continuing Education U. of Missouri-Rolla (314)341-4200.

14 Tuesdays - 3/14 Introduction to Environmental Auditing. UCI University Extension (5 Meetings total-afternoon and evening)Pacific Mut. Training Ctr. Room 17330 Brookhurst, Fountain Valley. CONTACT: UCI Univ. Extension program Certificate Prog. in Environmental Auditing (other courses available). (714)856-5414

20 -22 In-Situ Stress and In-Situ Stress Measurements. U. of Colo., Boulder, Center for Adv. Training in Eng. and Comp. Sci. Dept. of Civil, Envir. and Arch.

Engineering. CONTACT: (303)443-3322 CATECS

24-26 Red Rock Canyon Field Trip, Eastern Kern County. Meet at Park Headquarters, camping to south. See flyer from San Diego State Geology Department Alumni Association on other side of page.

### MARCH 1989

15 Wednesday AEG SCS - ASCE Geotechnical Group Joint Meeting "Engineering Tunnelling and Shoring Aspects of the Metro-Rail Project". Jerry Diaz, Stevens Steak House, 5332 Stevens Place, City of Commerce, Dinner 6:30, Program 7:30 Call (213)877-2757 for reservations.

20-24 "Applied Groundwater Modeling", Dr. Leonard Konikow (USGS), Dr. James Mercer, and Mr. Peter Andersen (GeoTrans, Inc.) International Ground Water Modeling Center Short Course, International Ground Water Modeling Center Short Course. CONTACT (317)283-9458

### APRIL 1989

11 Tuesday AEG SCS Meeting "Recent Advances in Vadose (Unsaturated) Zone Groundwater Monitoring", Dr. Lorne G. Everett, Quiet Cannon Restaurant, 901 North Via San Clemente, Montebello, Dinner 6:45 Program 8:00 Call (213)620-3560 (CDMG LA office) for reservations.

17-21 "Applied Groundwater Modeling", Dr. Leonard Konikow (USGS), Dr. James Mercer, and Mr. Peter Andersen (GeoTrans, Inc.) International Ground Water Modeling Center Short Course International Ground Water Modeling Center Short Course. CONTACT (317)283-9458.

### JUNE 1989

19-23 "Parameter Estimation in Groundwater Simulation", Dr. Richard Cooley (USGS) and Mr. Steve Larson (S.S. Papadopoulos) International Ground Water Modeling Center Short Course, International Ground Water Modeling Center Short Course. CONTACT (317)283-9458.

16-7/7 "Geology of Switzerland, Yugoslavia and Italy.", Dr. Dorothy Stout. Highlights include the karst topography of Yugoslavia; Alpine tectonics, glaciation and landslides; Vaiont Dam; cograil to the Jungfrau; subsidence in Venice; Matterhorn; Carrara marble quarry; soil instability in Pisa; sculpture in Florence; pozzilin in Pouzzilin; Vesuvius and Pompeii; and Duborvnik. CONTACT (714)826-2220 Cypress College, Cypress, CA 90630. Approximate cost \$3,500.

Special International Events in the U.S. beginning in the last part of June. The 28th Session of the International Geological Congress (IGC) will be held in the United States of America July 9-19, 1989, in collaboration with, and under the sponsorship of, the International Union of Geological Sciences. The 28th IGC is co-hosted by the U.S. Geological Survey and the U.S. National Academy of Sciences in cooperation with major U.S. earth sciences societies and industry organizations on behalf of the entire U.S. earth sciences community.

Mail to IGC (International Geological Congress)  
P.O. Box 727  
Tulsa, OK 74101-0727

If paying by check make payable only to: 28th IGC

Preregistration Deadline (at normal rate) February 1, 1989  
Deadline for late preregistration May 1, 1989  
All other inquires and general correspondence concerning the

Congress should be addressed to:  
Dr. Bruce B. Hanshaw  
Secretary General, 28th International Geological Congress  
P.O. Box 1001  
Herndon, Virginia 22070-1001

The following field trips are listed for the convenience of AEG SCS members. They focus on trips that are located primarily in the southwestern United States. Contact the above address for field trips available in the other parts of the country you are interested in. Plan your vacation now to take advantage of this unique opportunity.

### JUNE 1989

28-7/7 Field Trip T181-Engineering geology of western U.S. urban centers. I.G.C. Program Leaders: Jeffrey Keaton (Earthstore) and Richard N. Morris (San Diego Soils Eng.) Cost: \$1,800 Starts in Los Angeles Stops in Denver.

29-7/7 Field Trip T110- Sedimentation and Tectonics in coastal southern California. I.G.C. Program Leaders: Patrick Abbott (SDSU), Martin H. Link (Mobil R & D Corp.) and Tor H. Nilsen (App. Earth Tech.) Cost: \$900 Starts in San Diego Stops in Los Angeles.

### JULY 1989

1-7 Field Trip T105- Geology of San Francisco and vicinity. I.G.C. Program Leader: Clyde Wahrhaftig (USGS) Cost: \$1,100 Start-Stop in San Francisco.

1-7 Field Trip T111- Petroleum geology and structural transect across western Transverse Ranges and southern Coast Ranges, California. I.G.C. Program Leaders: Thomas Davis (Consultant) and Jay Namson (ARCO) Cost: \$925 Start-Stop in Los Angeles.

2-7 Field Trip T108- Tectonic evolution of northern California. I.G.C. Program Leaders: M.C. Blake, Jr., and D.S. Harwood (USGS) Cost: \$1,150 Start-Stop in San Francisco.

3-7 Field Trip T109- Mesozoic and Cenozoic siliceous sediments of California. I.G.C. Program Leader: Joyce R. Blueford and Caroline Isaacs (USGS) Cost: \$700 Starts in San Francisco Stops in Los Angeles.

3-7 Field Trip T113- Petroleum potential of the Basin and Range province. I.G.C. Program Leader: Norman H. Foster (Indep. geol) Cost: \$675 Start and Stop in Las Vegas.

5-7 Field Trip T186- Geology of Nevada Test Site and surrounding area. I.G.C. Program Leader: H. Lawrence McKague (LLN Lab), Paul Orkild (USGS) and Vel Clanton (DOE) Cost: \$500 Start and Stop in Las Vegas.

20-24 Field Trip T311- Oil in the California Monterey Formation. I.G.C. Program Leaders: R.J.B. Young and T.C. MacKinnon (Chevron) Cost: \$800 Start and Stop in Los Angeles.

20-26 Field Trip T312- Arc volcanism in the southern Cascade Range I.G.C. Program Leader: L.J. Patrick Muffler (USGS) Cost: \$775 Start and Stop in San Francisco

20-28 Field Trip T313- Quaternary volcanism of Long Valley caldera and Mono-Inyo Craters, eastern California I.G.C. Program Leaders: Roy A. Bailey, C. Dan Miller (USGS) and Kerry Sieh (Cal Tech) Cost: \$650 Start and Stop in Reno.

20-29 Field Trip T308- Geologic evolution of the northern most Coast Ranges and western Klamath Mountains, California. I.G.C. Program Leaders: K.R. Aalto (Humboldt SU) and G.D. Harper (SU of NY-Albany) Cost: \$750 Start and Stop at San Francisco Intern. Airport.

20-29 Field Trip T309- The San Andreas transform belt. I.G.C. Program Leaders: Arthur G. Sylvester and John C. Crowell (UCSB) Cost: \$1,400 Start in Long Beach Stops in San Francisco.

20-29 Field Trip T381- Landslides in central California. I.G.C. Program Leader: William M. Brown (USGS) Cost: \$1350 Start and Stop in San Francisco

24-28 Introduction to Groundwater Modeling IGWMC Staff International Ground Water Modeling Center Short Course, CONTACT (317)283-9458.

RED ROCK CANYON FIELD TRIP February 24, 25, and 26, 1989

Red Rock Canyon State Recreation Area is located in eastern Kern County, about half way between Mojave and Inyokern, along State Highway 14. This high desert area, at the western edge of the Mojave Block, can be expected to have warm days and cool to cold nights. Come prepared to experience possible weather extremes, some spectacular geology, and beautiful scenery! This area is tectonically active, and the climate is arid, so you can plan on seeing some excellent exposures (no poison oak to fight here).

The following has been excerpted from Whistler, D. P., 1987, Field Guide to the Geology of Red Rock Canyon and the Southern El Paso Mountains, Mojave Desert, California, NACT-FMS, p. 1-5.

The geology of Red Rock Canyon and the southern El Paso Mountains spans an interval of time from Late Precambrian to Holocene. Major depositional episodes occurred in the later Paleozoic, Paleocene, Miocene, and Quaternary time. Plutonic intrusion occurred during the latest Permian and Mesozoic. The bulk of exposures in Red Rock Canyon document the later Miocene through Holocene history of the area, which is under major structural control by the Carlock and El Paso faults.

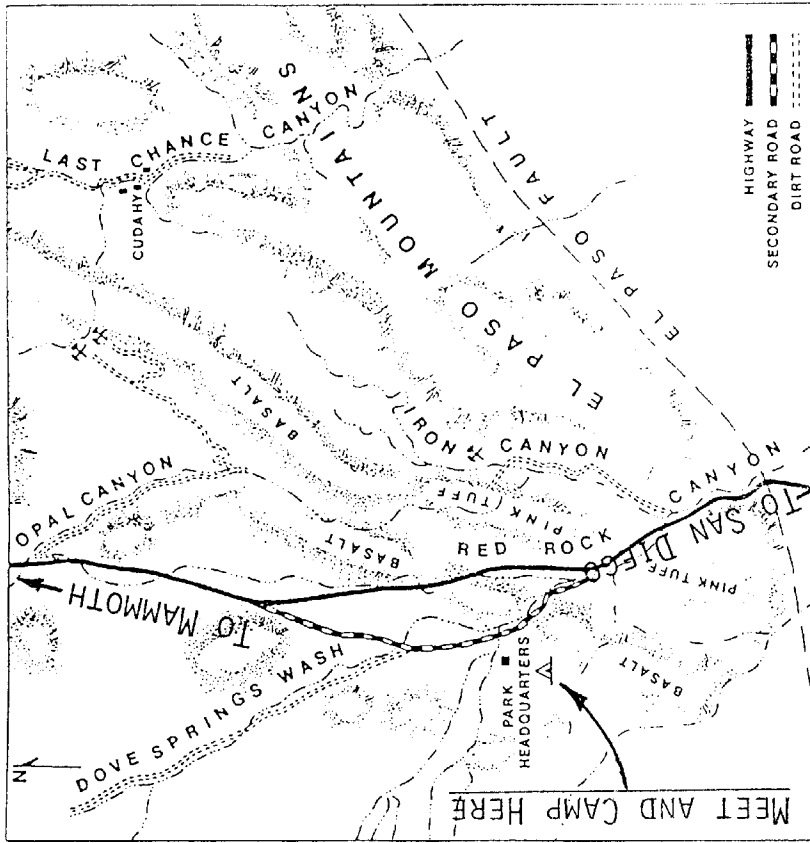
The oldest rocks exposed in the El Paso Mountains are the highly metamorphosed Precambrian chlorite-quartz-albite-sericite Mesquite Schist which forms the basement upon which the slightly metamorphosed, Late Paleozoic, marine Carlock Formation has been deposited.

The Carlock Formation and the Mesquite Schist have been intruded by a complex of plutonic rocks ranging in composition from hornblende-quartz diorite to granite. One of these intrusive units, a highly fractured and jointed granophyre plug, surrounds the gorge at the entrance to Red Rock Canyon.

The Paleozoic and Mesozoic rocks are deeply eroded, and are unconformably overlain by the Paleocene continental Goler Formation, a thick succession composed primarily of conglomerates and sandstones. Occasional finer-grained rocks in the Goler Formation have produced sparse, but diagnostic, vertebrate fossils.

The dominant exposures in Red Rock Canyon are Middle and Late Miocene volcanics and tuffs lumped together as the Ricardo Formation. The Ricardo Formation is overlain by several episodes of Quaternary alluvial deposition derived primarily from the emerging Sierra Nevada. These deposits demonstrate a complex history of down-cutting, terrace, and pediment development.

The dominant structural feature of the area is the Carlock fault and its major splay, the El Paso fault. The Carlock fault is a major transform fault which separates the relatively stable Mojave Block to the south from the major crustal extensional area of the Basin and Range Province to the north. A cumulative left-lateral displacement of 48 to 64 kilometers has been demonstrated for the Carlock fault zone. Alluvial fans that are offset from their source canyons along the front of the El Paso Mountains indicate at least 18 kilometers, or roughly 1/3 of the cumulative displacement, has occurred during the past 1.5 million years.



Index map of the Red Rock Canyon area (After Whistler, 1987)

S D S U GEOLOGY DEPARTMENT ALUMNI  
3RD ANNUAL FIELD TRIP

RED ROCK CANYON - EASTERN KERN COUNTY  
FEBRUARY 24, 25, 26, 1989

Y'ALL COME !!!

(6/19)

QUESTIONS ??? - CALL BILL ELLIOTT @ 586-0870

## THIS MONTH (continued from page 2)

Some interesting events relative to the Malibu area have been in the news lately. 1) The Big Rock Mesa case has been settled between the County of Los Angeles and the affected homeowners, and 2) The Los Angeles County Board of Supervisors has approved a \$37 million plan to construct a centralized wastewater treatment and disposal system. The Big Rock Mesa case, had it continued, would have been one of the largest suits of its kind at least in terms of the army of reports from homeowners, experts and attorneys required for its completion. Local newscasts reported that the settlement to each homeowner amounted to approximately \$100,000.

The implications of a new centralized wastewater system for the Malibu area suggest that many additional developments will be constructed. There will therefore be many slope movement problems that need to be resolved for the construction of the new utility, the new housing developments and support facilities. Several engineering geologic hazard maps of the Malibu area show that it has many non-trivial challenges for construction. Although the Big Rock Mesa case has been settled, let it serve as a good example for caution and reason to perform sufficient investigative tests and to perform suitable remedial construction tasks before developments are completed.

As a reminder, the Red Rock Canyon - El Paso Mountains field trip is scheduled for February 24-26th (the weekend following "Washington's Birthday" weekend). It is the 3rd annual field trip organized by the San Diego State University - Geology Department Alumni Association. Anyone interested is encouraged to come. Call Bill Elliott (619) 586-0870 if you have any questions.

This is the last issue that will be distributed free this year to the National AEG Membership in Southern California who do not intend to pay the \$20.00/year local fee. The fees are part of the overall non-profit operation of the Association of Engineering Geologists Southern California Section. Your fees go toward 1) the publication and mailing of the monthly newsletter, 2) paying for dinners for needy students at the monthly meetings, 3) paying for dinners for the monthly speakers, 4) expenses for field trips, 5) printing of special publications & reports, 6) awards, 7) keeping you up-to-date on engineering geology, and notifications for professional activities. Your fees will now also provide funds for support of a lobbyist in Sacramento to represent our interests.

Please contact Jerry Treiman - Treasurer (213)620-3560 (CDMG LA office) or Eldon Gath - Secretary (714)598-2856 in regard to changes of address and payment of fees. Send your \$20.00 check for 1989 fees payable to AEG, and mail to:

Jerry Treiman, AEG SCS Treasurer  
c/o California Division of Mines and Geology  
107 S. Broadway, Room 1065  
Los Angeles, CA 90012

Don Lamar says he will be "called home" if he does not get all individual photographs from AEG SCS Members and Associate Members along with short to very short biographical sketches for a special directory he will publish of Engineering Geologists in So. Cal..

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## Positions Available

Advertisements for Student & Part-Time  
"Positions Available" are Welcome.  
There is no charge for advertisement.

### Career Opportunity For Hydrogeologist

Immediate openings are available for a Hydrogeologist. Applicants should have a minimum of 5-7 years experience, masters degree in geology and registration as a geologist in California is preferred. Work is to be undertaken in the Los Angeles area. Challenging work and promotion potential with a rapidly growing firm. Salary is negotiable/commensurate with experience.

Call (415) 652-1164 or send resume to:  
E2 Consulting Engineers Inc.

Mr. Hersh Saluja  
1900 Bowell St., Suite 250  
Emeryville, CA 94608

### Career Opportunity For Environmental Geologists

Hazardous waste consulting firm has openings for entry and senior level Geologist positions. Experience with hydrogeology and hazardous waste desirable. California Registration or Certification preferred for senior positions. Challenging work and promotion potential with a rapidly growing firm. Salary is negotiable and commensurate with experience.

Call (714) 892-2565 or send resume to:

BCL Associates, Inc.  
5702 Bolsa Avenue  
Huntington Beach, CA 92649  
Attention: Personnel  
Equal Employment Opportunity firm

### Career Opportunity For Engineering Geologists

Openings are available for a staff and a project level Engineering Geologist. Applicants for staff level geologist should have a minimum of 2-3 years experience in hillside development projects in Southern California. Registration preferred for project level geologist. Salary commensurate with experience.

Call (714) 647-0277 or send resume to:  
GeoSoils, Inc.

H.D. Pouncey, Principal Geologist  
1446 E. Chestnut Avenue  
Santa Ana, CA 92701

### Career Opportunity For Senior Engineering Geologist

Immediate openings are available for an Engineering Geologist with the City of San Diego. Duties include reviewing building permit applications and determining the necessity and extent of geological evaluation needed; reviewing geological and investigative reports; and evaluating proposed geologic hazard mitigation measures. License as an Engineering Geologist in California is required. Salary commensurate with experience.

Call (619) 236-5753 or send resume to:

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Irvine, California 92714

Last issue for those who

have not renewed for 1989!

