

ASSOCIATION OF ENGINEERING GEOLOGISTS

SOUTHERN CALIFORNIA SECTION

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

November 1995

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THIS MONTH'S MEETING

November 14, 1995

Grouting and geotechnical engineering for remediation and mitigation of earthquake effects.

presented by

Steve Chandler

Reservations must be made by Friday, November 10!

Call GeoSoils at (818) 785-2158

(leave your name and the number in your party)

Location: Airtel Plaza Hotel, 7277 Valjean Avenue, Van Nuys

Cost: \$25.00

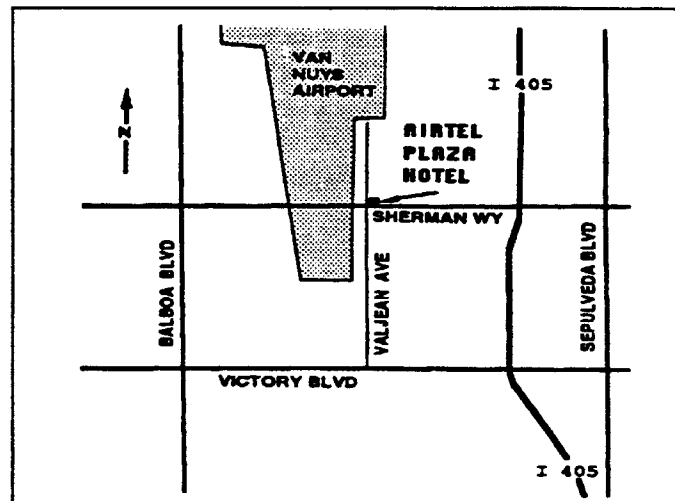
(\$15.00 for full-time students)

Social Hour: 6:00 pm

Dinner: 7:00 pm

Meeting: 8:00 pm

Map to Meeting



Deadline for submittals to the December newsletter: November 17

NOVEMBER PROGRAM

Grouting in geotechnical engineering for remediation and mitigation of earthquake effects

Steve Chandler

*The Pressure Grout Company
1301 W. 11th Street, Long Beach, CA 90813-2714*

Grouting techniques are used for modifying soils in-place to effect densification by compaction grouting, reinforcement by lens grouting, and solidification using permeation grouting. Since the Northridge Earthquake, dozens of structures have been grouted to remediate earthquake damages. Compaction grouting is the predominant method for the remediation work, however, other methods are available under certain circumstances.

Compaction grouting involves the volumetric displacement of soil by highly viscous sand-cement grout injections. Each injection densifies the surrounding soil. At the point of maximum densification, uplift will occur and lifting of the overlying soil/structure is achieved by continuing to pump grout. The technique has been used successfully to abate settlement, lift structures, and mitigate liquefaction potential.

Lens grouting is a hydraulic fracturing technique that places grout-filled fractures in soil by virtue of the relatively low viscosity as compared to compaction grout. The mechanism of soil reinforcement is based on the friction/bond between the hardened grout lens and

the soil. These planar grout fractures can also act as moisture barriers to reduce moisture changes in soil.

Chemical/Permeation grouting is the process of injecting a cementing fluid into the interstitial pores of a relatively clean sand to bind the soil particles together.

The technique is used to solidify sand beneath existing footings.

The slide presentation will show grouting concepts, work sites, and results, including before and after density tests for soils mitigation for liquefaction potential using compaction grouting.



Biographical Information

Steve Chandler is the branch manager of the Pressure Grout Company, Long Beach, California. He graduated with a B.S. degree in geological engineering from the University of Arizona in 1979. For six years he engineered hydraulic fracturing and cementing treatments for oil and gas wells with Dowell-Schlumberger. He has managed the work of Pressure Grout Company in southern California, Nevada, Arizona, and New Mexico for the past nine years.

CHAIRMAN'S COLUMN

It was great to see so many of you attend the joint AEG/GRA Annual meeting. The meeting was a huge success with over 632 registrants. The Sacramento section reported surplus funds of approximately \$28,000.00 from the event. This would not have been possible without your participation.

Many of you presented some impressive papers. My personal favorite was Ken Lajoie and Dan Ponti's paper on "Amino-Stratigraphic Correlations of Surface and Subsurface Marine Pleistocene Sediments in the Western

Los Angeles Basin." Dr. Lajoie presented new stratigraphic correlations between Pleistocene oceanic sediments from drilling in the San Pedro Basin to the terrace deposits on Palos Verdes and elsewhere. I'll try to have them as our speakers early next year if they are willing.

Southern California was honored by receiving AEG's 1995 outstanding Environmental & Engineering Geologic Project Award for the West Coast Basin, Dominguez Gap, and Alamitos Seawater Intrusion Barrier System (that underground dam thing that you really can't see,

but trust me, it's important). The project was nominated by **Rob Larson**. **Mike Johnson**, County of Los Angeles, Department of Public Works, gave an excellent slide presentation overview of the project.

The first injection well was drilled in 1951, and the project is an ongoing process that seems to be performing quite well. A large bronze plaque will be erected near the first well site.

Douglas A. Williamson and our own **Jim Slosson** were made Honorary Members of AEG (maybe that should be *ornery* members). **Dave Rogers** (our AEG/ASCE joint meeting speaker last March) was presented the Richard H. Jahns Distinguished Lecturer in Engineering Geology award. **Chris Mathewson**, AEG past president from Texas was granted the Floyd T. Johnson Service Award for his career-long efforts to establish geologists as professionals. **Dick Proctor** and **Barney Pipkin** won the Claire P. Holdredge Award for "Engineering Geology Practice in Southern California, 1992" which they edited (copies are still available from Mark Swaitek).

The Board of Directors was pleased to approve the formation of a new AEG section. The new Great Basin Section will be centered in Reno, Nevada. Its territory encompasses the northern 2/3 of the State of Nevada, with the southern boundary roughly an east-west line just south of Tonopah. **Shawn K. Gooch** will chair the section, which has 41 active members, including student members. These geologists have been active over the past few years as the Reno Subsection of the larger Southwest Section, located in Las Vegas. The commute from Reno to Las Vegas prohibited many from attending the monthly meetings. Congratulations to the new Great Basin Section.

All in all, we had a great time. But moving into the future, I encourage you all to attend the annual field trip and the upcoming Seismicity Short Course. Many of you have requested the notebook for the last Short Course in Seismicity which is no longer available. You will soon be able to get the updated notebook. See you on the field trip. ϕ

JOB OPPORTUNITIES

Bing Yen & Associates, Inc. is accepting applications for the position of Staff Geologist or Project Geologist. Applicants must possess a minimum of a Bachelor's degree in Geology, and 2 to 5 years experience performing engineering geological work. Registration (CEG), advanced degrees, and related experience in environmental or geotechnical engineering a plus. Candidates should possess excellent communication and writing skills, and must be willing to travel periodically within the southern California area. We offer a competitive salary and benefits package. Resumes should be mailed or faxed to:

Michael B. Phipps, C.E.G.
Bing Yen & Associates
17701 Mitchell North
Irvine, CA 92714-6029
Fax: 714-757-1941

We are an equal opportunity employer.

Recently the AEG Southern California Section membership list was made available to the Southern California Earthquake Center (SCEC) at their request. Dissemination of information has been a top priority at SCEC, as discussed by Dr. Tom Henyey at the December 1994 Section meeting, and specifically requested by the members who attended that meeting. This is the first time that I am aware of that the section membership list was used for this purpose.

Currently there is no policy regarding the distribution of the AEG So. Cal. Section mailing list; therefore, I suggest the following: that the membership list shall be made available to any research organization that wishes to provide information, meeting announcements, etcetera, directly to the membership. The membership list shall *not* be provided to businesses for the purpose of direct-mail advertising. Despite the potential benefit, some members may not want their addresses made available to *any* organization regardless of intent. Let me know if you do not want to be included in future requests (should there be any). If you feel discussion of this topic is warranted, bring it up at the next section meeting, or write/phone/e-mail your comments to me or Joe Cota.

The **NEW AEG Membership Application** has been reproduced in this month's newsletter. Notice it is down to *one page* from four! Only one sponsor is now required to validate the application for membership, or to upgrade your membership status. Now is an excellent time to upgrade from Student to Associate class, or from Associate to full Membership status.

A very special thanks to **Jerry Treiman** of the CDMG for providing a huge collection of past issues of the Southern California Section AEG Newsletter. Our archives now contain issues dated November 1979, February and March 1982, and September 1982 through the present! The past editors of these issues included: **Hugh Robertson**, **John Merrill**, **Chris Wills**, **Kelly Rowe**, **Tania Gonzalez**, and **Dave Ebersold**. Several features included in past newsletters are worthy of resurrection and I will attempt work as many as possible into future issues. If you have any old issues other than those listed above, please send them (or photocopies) to me so that I can add them to the collection.

One feature of particular interest (to me, anyway) was member news. During Robertson's and Merrill's reign, there seemed to be a tremendous amount of member participation in the newsletter. The members contributed all sorts of information about projects they were working on, interesting geology they saw on vacation, large developments initiating grading, announcements of future field trips, impressions of recent field trips, and so forth. These items can be interesting to our readers but in order for it to work, your participation is required. ϕ

POLITICAL SCENE

LETTER FROM JUDITH WOLLEN

Report of Legislative activity October 1 — October 31, 1995
Status on Board of Registration for Geologists and Geophysicists

A representative from the Board of Geologists and Geophysicists, Seena Hoose; Dalton Pollard; Executive officer of the Board, J.C. Isham; Chair of Sacramento AEG; and myself met with Bill Gage, Legislative staff person for the Legislative Sunset Review Committee, for over two hours on the report requirements for the committee. Bill and his staff will be reviewing all of the reports and providing recommendations to the Legislative Review Committee prior to the hearing. Seena is the key person in drafting the report for the Board.

Bill Gage provided a tremendous amount of information to Seena on what he was looking for in content and format of the report. He also offered to review a draft and give comments to Seena.

The report was delivered to Bill Gage on time and I followed up on October 4th to get feedback. He said the report looked good, but that he has not looked at it in detail. He will release his report to AEG and the board two weeks prior to the hearing date.

The original date for the hearings was to be the first week of December, but because the Assembly never assigned anyone to the committee before they left on recess, the hearings may be delayed until January.

Bill Gage expects to have his final report prepared by the end of November.

Other Legislative Updates

The Legislature is in recess until January 3, 1996. Prior to the end of the session, both the Senate and Assembly Republicans chose new leaders. Senator Ken Maddy, a republican moderate was replaced by Rob Hurtt, a conservative. Assemblywoman Doris Allen from Orange County stepped down to fight the recall effort being partially funded by Rob Hurtt. Allen was replaced by Brian Setensich from Fresno. He was elected by the Democratic votes plus Allen and himself. Setensich, however, appears to be more palatable to the Assembly Republicans than Allen was.

The following is the status of each of the AEG bills we have been tracking. Of the five key bills, two were chaptered into law and one was dropped by the author and two are two-year bills and will be heard beginning in January.

AJR (SHER)

Regarding the United States Geological Survey.
Status: Chaptered on June 20th, 95-R-037

AB 349 (ESCUZIA)

Position: Support/Amend

Existing law requires the state Fire Marshal to establish and maintain a centralized data base on specified intrastate hazardous liquid pipelines. This bill would require the data base to include

information on fault movement and seismic subsidence reported along the pipeline route.

Status: Two-year bill.

AB 1566 (RAINEY)

Position: None at this date.

Existing law, the Professional Land Surveys Act, specifies the physical characteristics of the map that is the record of a survey. This bill would revise those characteristics and would make conforming changes.

Status: Chaptered into law - 95-0579

AB 1876 (RICHTER)

Note: This bill was amended to include the registration of a class II environmental assessor.

This bill would authorize private site managers and private site management teams, as defined, to conduct investigations of potential hazardous substance release sites using specified assessment procedures. Included in the definition as private site managers are: the individual must be registered as a class II environmental assessor. The team must consist of any of the following (to name a few), all to be registered in the State of California: an engineering geologist, environmental engineer, engineer, hydrogeologist, geologist, and geophysicist.

Status: This bill is with the Governor, and he is expected to sign it prior to the deadline of October 15, 1995. There was no listed opposition to this bill as it made its way through the Legislature.

SB 562 (THOMPSON)

This bill would authorize the State Water Resource Board to pay a claim for the costs of corrective action to a person who owns property on which is located a release from a petroleum underground storage tank which has been the subject of a completed corrective action and for which additional corrective action is required because of newly discovered contamination from that tank.

Status: Two-year bill. Is held in Assembly Committee on Environmental Safety.

COMPUTER CORNER

A recent news report stated that only one out of five people accessed the world wide web when logged onto an on-line service. Apparently people are finally beginning to recognize all the web-hype for what it is and staying off of it. Hopefully this will have the effect of speeding up the system and reducing the number of "unable to access the URL" messages received.

AEG now has a homepage! It's URL is: <http://128.194.195.51>. Check it out!

UPCOMING SHORT COURSES

SEISMIC HAZARDS ANALYSIS — A one-day AEG (Southern California Section) short course is planned for Saturday, January 20, 1996, at USC's Davidson Conference Center in Los Angeles. This short course supplements and expands upon the previous AEG-Seismic Hazards Analysis short course held in 1994. Thomas Blake has expended great effort in obtaining several prominent experts to share their knowledge of the state-of-the-art of seismic hazards analysis. Topics will include the mechanics of

probabilistic seismic hazard modeling, the role of SCEC in seismic hazard modeling, fault-specific parameters for selected California faults, attenuation of strong motion, and the use of seismic hazard analysis data by structural engineers. Registration and additional short course information will be available in subsequent Section newsletters and at monthly meetings. Contact Sue Tanges at 619-442-8022.

Association of Engineering Geologists Southwest Section — Las Vegas Subsection SHORT COURSE

Geology of Southern Nevada

presented by

Professor Steve Rowland

Dept. of Geoscience,
University of Nevada, Las Vegas

☎ (702) 895-3625

When: Saturday, December 9, 1995

Where: Hacienda Hotel, Las Vegas, Nevada

Time: 8 am to 5 pm

Cost: \$55.00

Coordinator: Dr. Nick Saines
1587 Figueroa Drive
Las Vegas, NV 89123
☎ (702) 896-4049

Course Description: A course covering the regional geology, stratigraphy, and structural geology of southern Nevada; the geological history of the region from Precambrian to Recent time; major faulting; and implications regarding waste disposal, water supply, and seismic activity.

Field Trip: Sunday, December 10, 1995, 8am to noon led by Steve Rowland. Cost: \$15.00.

How to Register: Send check for \$55.00 for short course, \$15.00 for the field trip, or \$65.00 for both, made out to AEG-SW Section to Nick Saines at above address.



9-21-95

Dear Mr. Hart

Thank you for coming. I liked knowing that when you water at the top of a mountain and someone else is digging at the bottom, there will be a landslide. I liked knowing that ground can drop straight down.

Sincerely,
Steffi Russell-Kraft

Steffi Russell-Kraft
La Jolla Country Day School, Second Grade
Thank-you letter to Mike Hart for speaking about geology to their class

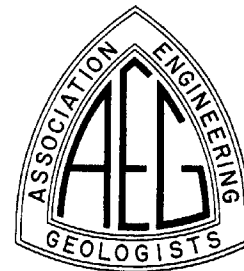
S olutions	Consulting Geohydrologist
L and	Engineering Geologist
W ater	Water Quality Specialist
Sanford L. Werner	
Registered Geologist Certified Engineering Geologist	
21031 Blythe St., Canoga Park, CA 91304, (818) 998-8178	

Mail Completed Application to:

Edwin A. Blackey, Jr.
Association of Engineering Geologists
323 Boston Post Road, Suite 2D
Sudbury, MA 01776

**APPLICATION FOR MEMBERSHIP
ASSOCIATION OF ENGINEERING GEOLOGISTS**

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APPLICANT:

Name: _____
(Printed in the form applicant wishes for their AEG certificate.)

Addresses: (Please check box for preferred mailing.)

Home: _____

Home Phone: _____

Business: _____

Business Phone: _____ FAX: _____

E-mail: _____

MEMBERSHIP CLASS/STATUS:(Check appropriate boxes) New Member Reclassification

- | | | | |
|--------------|--|---------------------------|---|
| CLASS | <input type="checkbox"/> Member (M) | STATUS | <input type="checkbox"/> Earth Science Teacher (ET) |
| | <input type="checkbox"/> Associate Member (AM) | | <input type="checkbox"/> Corporate Member (CR) |
| | | | <input type="checkbox"/> International Member (IM) |
| | | | <input type="checkbox"/> Spousal Member (SP) |
| | <input type="checkbox"/> Affiliate Member (AF) | Qualifying Spouse: | _____ |
| | <input type="checkbox"/> Education Member (EM) | Corporate Representative: | _____ Section: _____ |
| | <input type="checkbox"/> Student Member (SM) | | |

QUALIFYING EDUCATION:

College or University (give city & state)	Dates From — To	Major	Geoscience Semester Hrs.*	OR	Degree Received
--	--------------------	-------	---------------------------------	-----------	--------------------

*Convert quarter hours to nearest full hour semester hours by multiplying by 0.66 (M and AM only)

QUALIFYING PROFESSIONAL GEOSCIENCE EXPERIENCE:

Include: Applicant's title, employer, and description of duties, dates of employment (attach resume)

Affidavit:

I have read the instructions and membership qualification requirements. I certify to the best of my knowledge and belief that all entries on this application are true and correct. I consider myself qualified for the class of membership for which I am applying. I have attached a check for the amount indicated in the instructions. I agree to abide by the Bylaws of the AEG.

Signature of Applicant _____ Date _____

Sponsor (Required only for Member Class):

I am a Member (M) of AEG and have personal knowledge (through experience or interviews) of the applicant's qualifications. In my opinion, the applicant is qualified for the Member Class as described on the reverse.

Signature of Sponsor _____ Date _____

Printed Name of Sponsor _____ Phone: _____

**FOR ASSOCIATION
USE ONLY**

Membership No. _____
Check No. _____
Check date ___/___/___
Approval _____
Approval _____
Date ___/___/___

SUMMARY OF MEMBERSHIP INFORMATION

CLASS	EDUCATION	EXPERIENCE	RIGHTS AND PRIVILEGES
Member (M) Annual Dues \$80.00	Degree in geology, engineering geology or geological engineering OR Degree in related professional field and completion of 30 semester hours of geosciences.	5 years post baccalaureate professional experience in engineering geology including one year of complex work in responsible position. Graduate geologic studies experience equivalent credit: 2 years for Ph.D.; 1 year for M.S.	Vote and hold office in Association Vote and hold office in Section Sponsor all classes of membership Chair and serve on Association and Section Committees Advertise AEG affiliation Receive all publications Listing in Directory
Associate Member (AM) Annual Dues: \$70.00 for the first 5 yrs. and \$80.00 thereafter.	Same as Member	Engaged full time in the practice of engineering geology, or working under supervision or in close association with professionally qualified geologists or engineers.	Same as above except for holding the office of Treasurer, Vice-Chairperson, Chairperson or, Membership Chair. Also may not sponsor Members or advertise AEG affiliation.
Affiliate Member (AF) Annual Dues: \$70.00		Scientist/engineer working with engineering geologists; persons interested in advancement of engineering geology. (Persons who qualify as a Member or Associate Member are ineligible to join as an Affiliate Member)	Same rights and privileges as an Associate Member except the right to vote in Section and Association activities
Student Member (SM) Annual Dues: \$25.00		Full-time student taking courses in geological sciences or geological engineering	Vote and hold office in Student Chapter Chair or serve on student chapter committees Receive all publications Listing in Directory
STATUS			
Corporate Member (CR) Annual Dues: \$250.00 (\$125.00 half year)		A corporation interested in furthering the application of geological sciences to the solution of engineering problems	The designated representative of the Corporate Member has the same rights and privileges as an Affiliate Member, plus the right to advertise their AEG membership.
Spousal Member (SP) Annual Dues: \$35.00		One partner of a married couple who both are, or could be, AEG members, with the same address, may have one member accepted as a Spousal Member.	The Spousal Member has all rights and privileges of this membership class, but does not receive AEG publications.
Earth Science Teacher (ET) Annual Dues: \$35.00		A teacher who participates in the presentation of earth science information as part of his/her accredited instructional program in the K through 12 grades.	Same as Affiliate Member, but do not receive the Journal
International Member (IM) Annual Dues \$55.00		A Member not residing in the U.S.A., Canada, or Mexico	Same as appropriate member class

Note: A degree in other Earth Sciences (hydrogeology, geophysics, geological engineering, or environmental geology) may be substituted for a degree in geology or engineering geology. Other experience in earth science may also be substituted for engineering geology experience.

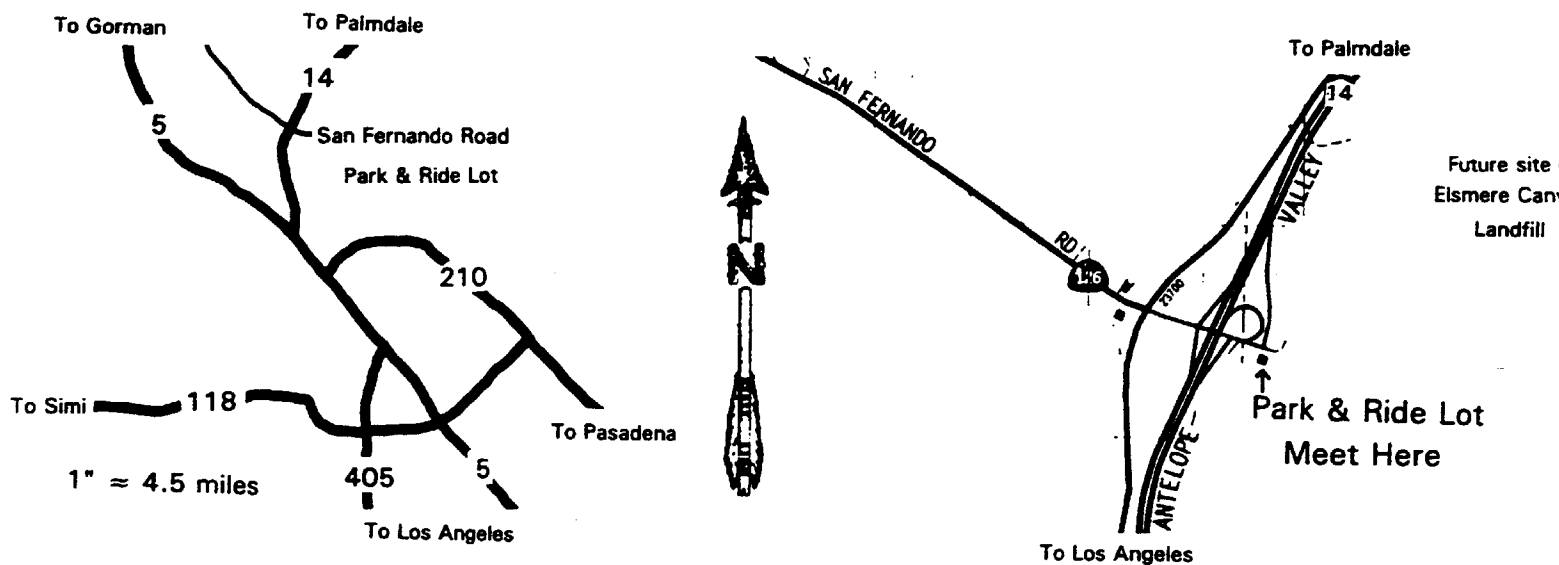
AEG Fall Field Trip - 1995 Ground Failure During the 1994 Northridge Earthquake

When: Saturday, November 11, 8:00-5:00
Where: Potrero Canyon and Castaic Junction areas
Cost: \$65.00 (includes guidebook, bus, lunch, refreshments)
Purpose: To observe and hear about ground failure features caused by the 1994 Northridge earthquake.
Field Trip Leaders: Randy Jibson (USGS), Ed Harp (USGS), Tom Blake (Fugro), Dan Ponti (USGS), and Tom Fumal (USGS).

You have probably heard tidbits regarding ground failure phenomena (including liquefaction, landsliding, and fracturing) that occurred during the 1994 Northridge earthquake. Join the 1995 AEG field trip to visit several of the failure sites and hear first hand from geologists who have studied them. Dan Ponti and Tom Fumal will lead us to Granada Hills and Potrero Canyon where ground displacement occurred; Randy Jibson and Ed Harp will take us to several landslides in the Castaic Junction area; and Tom Blake will have a poster session and lecture on results of liquefaction studies of the Simi Valley area. A catered, hot lunch and refreshments will be served.

NOTE: Visits to the landslides will include moderately strenuous hikes along unpaved roads. Because of liability and insurance considerations, only members of the Association can visit the landslides, which are on private property.

Meeting Place: Busses will depart promptly at 8:00 A.M. from the park and Ride Parking lot at the San Fernando Road exit on the I-14 Freeway (map below). Plan to arrive at least 45 minutes early. We intend to return to the lot no later than 5:00 P.M.



Please return the attached sign-up sheet and signed release form to:

Kim Bishop
Department of Geology
5151 State University Drive
California State University, Los Angeles
Los Angeles, CA 90032

There are **10 spaces still available** (as of 10/31/95), so to ensure a place on the trip, forms must be returned with a check for \$65.00 payable to the Association of Engineering Geologists right now.

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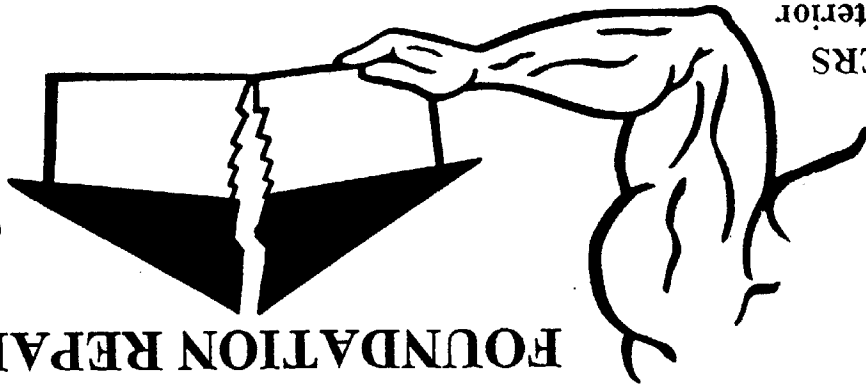
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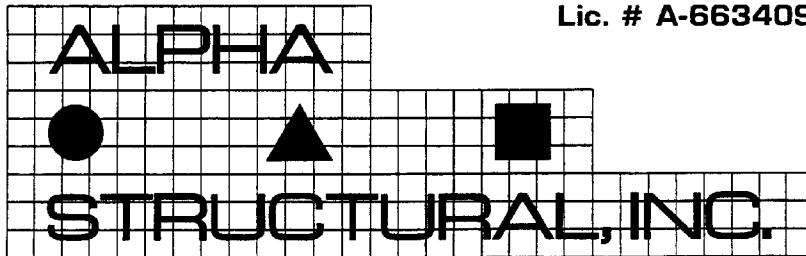


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