

ASSOCIATION OF ENGINEERING GEOLOGISTS

Southern California Section

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NEWSLETTER – NOVEMBER 2003

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Date: **Tuesday, November 18, 2003**
Location: Steven's Steak House, 5332 Stevens Place, Commerce, CA
Time: 5:30 p.m.-Social Hour; 7:00 p.m.-Dinner;
8:00 p.m.-Presentation
Reservations: Call (949) 253-5924 ex 564, or email Brian Villalobos, by
12:00 p.m., Friday, October 10, 2003
Cost: \$25 per person with reservations, \$30 at the door, \$12 for
students
Speaker: **Dr. Jonathan D. Bray, Ph.D., P.E.**
Title: **Developing Mitigation Measures for the Hazards
Associated with Earthquake Surface Fault Rupture**

Abstract: Recent earthquakes have reminded the profession of the devastating Effects of earthquake surface fault rupture on engineered structures and facilities. Insights from these events are discussed with special emphasis on describing how ground movements associated with surface faulting affect structures. Analytical procedures that can be employed to evaluate the hazards associated with surface faulting and to develop reasonable mitigation measures are also discussed.

A project in Southern California where these procedures were applied is presented to illustrate the insight gained from sound engineering analysis of the problem. Similar to other forms of ground failure, such as mining subsidence, landslides, and lateral spreading, effective design strategies can be employed to address the hazards associated with surface faulting. (cont.)

These design measures include establishing non-arbitrary setbacks based on fault geometry, fault displacement, and the overlying soil; constructing earth fills, often reinforced with geosynthetics, to partially absorb underlying ground movements; using slip layers to decouple ground movements from foundation elements; and designing strong, ductile foundation elements that can accommodate some level of deformation without compromising the functionality of the structure.

Bio: Jonathan D. Bray is a professor within the Department of Civil Engineering, University of California, Berkeley. Dr. Bray holds both a Ph. D. and P.E.

CHAIR COLUMN

(by Tania Gonzalez)

This month's meeting will take place on the third, rather than second, Tuesday of the month, as we are meeting jointly with the Geotechnical Group of ASCE. The last time that we met jointly, they adopted our schedule, so it is our turn to adopt theirs. This means that we will be having dinner half an hour earlier than usual, at 6:30 PM instead of 7:00 PM. It is possible that most of you prefer the earlier schedule and we may want to adopt it for our future meetings. Let me know your preference.

I expect that Dr. Bray's presentation will be very interesting, informative, and possibly controversial. For about 30 years, we have followed a prescriptive model required by State law that prohibits the placement of habitable structures across the trace of an active fault. This is typically straightforward in undeveloped sites large enough to accommodate the placement of the proposed structures outside of the setback zone. But in small sites, or in redevelopment areas, avoiding the fault zone can have significant repercussions, possibly even "making" or "breaking" the project. For faults with the potential for large displacements during an earthquake, avoidance is most likely still the preferred alternative, but for smaller slip faults, should we be considering engineering strengthening or other engineering solutions as viable alternatives? Come to our next meeting, listen to Dr. Bray and participate in the discussion. And do not forget to invite other geologists and the engineers in your office to come along.

For the December meeting we are planning a different agenda. Instead of having one guest speaker, we have invited geology students from several different local colleges and universities to prepare posters on their research and present them at the meeting. This is a great opportunity for potential employers to scout out future graduates that may be soon looking for a job. We have sent announcements to San Diego State, UCSD, Cal State Fullerton, CalTech, Cal State Northridge, USC, UCLA, UC Riverside, UC Santa Barbara, and Cal State Long Beach. If you know any student that would be interested in this opportunity, please tell them to contact Matt Hawley (mhawley@lgc.com) for additional

information. Our "Student Night" will be on Tuesday, December 16th at Stevens Steakhouse.

We are currently requesting donations for our meeting raffles. We raffled away all of the publications kindly donated by Larry Cann, Paul Davis, Buzz Spellman and others, and as a result, we have stopped what was becoming a tradition that everybody looked forward to. Publications are always welcome, but other items of geologic interest are also welcome, such as mineral or rock specimens. Thank you!

Last but not least, draft finals of new Mission, Vision and Values Statements for AEG will be published in the December issue of AEGNews. Please take the time to review them. We are looking for member input regarding these statements, as the final versions of these will be used to revise the Association's bylaws and procedures, and in the development of a Strategic Plan.

I hope to see you at the next meeting, and the next!

2003 MEMBERSHIP RENEWAL

You probably received your 2003 dues statement from AEG National by now. If you have not received it, or are unsure about your membership status, please contact AEG Headquarters aegweb.org, or Tania Gonzalez. We are currently looking for a new Membership Chair. Please contact Tania Gonzalez you wish to volunteer.

YEAR 2002-3 CONTRIBUTORS

Earth Consultants International

Robertson Geotechnical, Inc.

YEAR 2002-3 CONTRIBUTORS NEEDED

Contributions from corporations and individual members for 2003 will be greatly appreciated. Contributors will be listed in our newsletter throughout the year and can post their logo or business card in the newsletter if so desired. Please mail contributions made out to **AEG** to our section chair, Tania Gonzalez.

AEG LEGISLATIVE STATUS REPORT, NOVEMBER, 2003

Our lobbyist, reports that of the 29 bills being watched this year, 12 were signed into law and 17 are two year bills. It has been very exciting since the recall. There is a lot of energy and hope that the Governor Elect can turn things around. He is making appointments daily but none that would be of interest to AEG up to this point. The DCA Director should be named in the near future and I will let you know as soon as I find out. Please visit our website for details of the individual bills www.aegsc.org

BOARD OPENING

The Board for Geologists and Geophysicists (Board) will have an opening for a position on the Enforcement Oversight Committee (EOC) at the end of this fiscal year (June 30, 2004). The term for this position is two years, with a maximum of 3 terms. The purpose of the EOC is to continually seek ways to improve the Board's enforcement activities and to review closed cases to assist in identifying trends in enforcement activities or situations where enforcement procedures might be improved. Meetings are held in Sacramento two or three times per year or as work requires. The next scheduled EOC meeting is Friday, April 2, 2004. The Board desires that the candidate who is chosen be able to attend this meeting so that continuity in the oversight of enforcement operations can be maintained.

Applications for this position should include a curriculum vitae, a Statement of Qualifications and a cover letter. The Board will review the applications and make a selection at its meeting on December 5, 2003. Possession of one or more of the licenses issued by the Board is mandatory, as is the ability to maintain confidentiality.

This is a volunteer position with the Board. Appropriate expenses will be paid by the Board for the completion of EOC assignments, including travel to and from Sacramento. There is no salary or per diem for this position.

The deadline for submittal of applications is Friday, November 21, 2003. They can be sent to the Board at the address on this website.

IN MEMORIUM

It is with sadness that we report that Dr. Peter Weigand, professor of Geology at CSUN, passed away on September 26, 2003. The following is from the *Los Angeles Times'* obituary:

Peter W. Weigand, Emeritus Professor of Geological Sciences at California State University Northridge (CSUN), passed away September 26, 2003, in Los Angeles from complications during heart surgery. Dr. Weigand left behind a deeply personal and inspiring professional legacy and will be missed both personally and professionally by all who knew him. He was known for his enthusiasm for geology, for his dedication to students, and for his commitment to teaching excellence. He was honored with the 2003 Distinguished Educator Award of the Pacific Section of the American Association of Petroleum Geologists and a 2002 Distinguished Teaching Award by the CSUN President's Associates.

At the time of his passing, Dr. Weigand was in the process of developing lecture materials and a resource website for local teachers focusing on the geology of Southern California. This effort will be continued by volunteers who were inspired by the passion and dedication of their mentor. Dr. Weigand led or co-led numerous educational field trips to local geological features not only for CSUN students, but also for local teachers and for societies for which he was a member. His research with students focused on improving our understanding of the character and origin of volcanic formations in the Santa Monica Mountains and nearby areas of Southern California. His research contributions were honored with the 1999 George Lefevre, Jr., Research Award from the CSUN Chapter of Sigma Xi Research Society. His most recent research focused on the volcanic rocks in the Neenach Formation near Gorman and in the Pinnacles National Monument and it along with previous work contributed to the body of knowledge on the offset along the San Andreas Fault in Central California.

Dr. Weigand served as General Co-Chair of the 2001 first-ever joint meeting of the Cordilleran Section of the Geological Society of America and the Pacific Section of The American Association of Petroleum Geologists and as Vice President of the Thomas W. Dibblee, Jr. Geological Foundation since 2000. Dr. Weigand loved spending time with his family, traveling, reading science-fiction books, playing at the beach, collecting dinosaur memorabilia, watching Dodger baseball games and Sunday football, reading the Los Angeles Times, and enjoying a good cup of Starbucks coffee. He is survived by his wife, son, daughter, granddaughter, and a brother. Services honoring Dr. Weigand were held on October 18 both in Woodbury, Connecticut and on the CSUN campus. The family requests that for those who wish, donations may be made to heart imaging research: USC Cardiovascular Research Fund (please write on check memo line: Pohost (PWW) or the Peter Weigand Scholarship Fund at CSUN. In addition, blood donations can be made at any Kaiser Permanente facility indicating that the blood is to replace blood given to Dr. Weigand.

EMPLOYMENT OPPORTUNITIES



Petra Geotechnical, Inc. is currently seeking **geotechnical engineers, geologists, soils technicians, and deputy inspectors** at their Costa Mesa, Murrieta, San Diego, and Santa Clarita offices. Petra is a geotechnical, environmental, and materials testing firm that has provided professional earth science services throughout southern California since 1975. Typical projects include residential developments, commercial structures, educational and infrastructure facilities. We offer competitive salaries, excellent benefits, a comfortable working atmosphere, and a pleasant commute! Please submit your resume with references to Ms. Jennifer Griffin at email address jgriffin@petra-inc.com, fax number 714.668.3770, or mailing address 3185-A Airway Ave., Costa Mesa, CA 92626

ENV America Incorporated

ENV America Incorporated, an environmental engineering, consulting and remedial construction company is seeking project-level geologists for offices in Irvine and San Francisco. The ideal candidate would have 4 to 10 years of experience; possess excellent writing and communication skills, degree in geology, and a willingness to periodically travel. Professional registration in California is a plus. Resumes should be sent via email to jarwood@envamerica.com.

ENSR International

At ENSR International, a recognized global leader in environmental services, we strive to match the exceptional quality of our work with the quality of the careers we build. Currently, we're looking for talented professionals who are interested in working on an exciting project in our Sacramento, Alameda, Santa Ana, and Camarillo, CA locations.

Will be responsible for assisting in all activities associated with petroleum and UST sites which includes site investigation field activities; site safety tailgate meetings; scheduling subcontractors; obtaining permits and dig-alert notifications; placement of drill rigs; obtaining soil and groundwater samples; coordination with analytical laboratories; and communications with the project manager. Additional duties may include operations and maintenance for remediation treatment systems and report writing. B.S. in geology is preferred, and positions for various levels of experience ranging from entry-level, no experience, to 7 years relevant experience are available.

ENSR is an Equal Opportunity Employer. We offer competitive salaries, advancement opportunities and a full range of benefits. Please send your resume to hrwest@ensr.com for further consideration. To learn more about ENSR and other career opportunities, please visit our website at www.ENSR.com.

Leighton and Associates

Leighton and Associates is seeking to fill two positions:

- * Project/Senior Project Geotechnical Engineer
- * Project/Senior Project Geologist

The employee should have PE/GE or RG/CEG registrations; 5 years of project management experience for public works and commercial/residential land development and construction projects; experience managing professional and field staff; skill in preparing proposals, reports and client presentations, and the talent for interfacing with clients from the sales efforts through project execution. Leighton offers a comprehensive flexible benefits package. Our website (www.leightongeo.com) has additional details and program highlights.

Please email your resume to:
HR@leightongeo.com
or send to our corporate office at
Human Resources
Leighton and Associates
17781 Cowan Irvine, CA 92614

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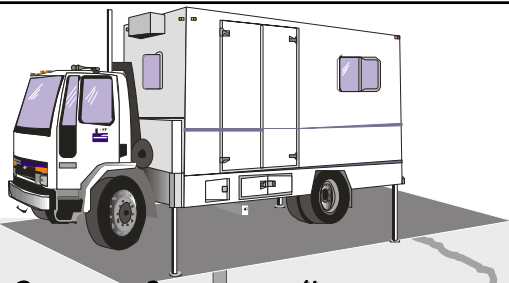
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A SHORT COURSE ON
**The Latest Developments in
 ENVIRONMENTAL and GEOTECHNICAL
 CONE PENETRATION TESTING**



COURSE SCHEDULE/LOCATION

HUNTINGTON BEACH, CALIFORNIA
 Thursday- February 19, 2004 - Environmental
 Friday- February 20, 2004 - Geotechnical
8:30 a.m. to 5:00 p.m.
 (Registration/Continental Breakfast begins at 8:00a.m.)
HYATT REGENCY - HUNTINGTON BEACH
 21500 Pacific Coast Hwy.
 Huntington Beach, California 92648
 (714) 698-1234

WHO SHOULD ATTEND

The courses are intended for Geotechnical Engineers and Engineering Geologists working with foundation design, liquefaction, and geotechnical site investigation and Geologists, Engineers, and Environmental Professionals working with environmental site assessment and remedial design. These short courses represent 8 hours of Professional Development Hours (PDH's) per day. A certificate will be issued upon completion.

PURPOSE

Site characterization is the basic first step for any geotechnical or geo-environmental study. This short course will provide engineers and geologists with the knowledge and background to plan and supervise site investigation and to interpret CPT and SPT data. Emphasis will be given to recent advances and regulatory requirements in the area of liquefaction potential determination and remedial design considerations.

Gregg In Situ, Inc. is pleased to announce the scheduling of two short courses on the latest developments in the use of cone penetration testing (CPT) in environmental and geotechnical site investigations.

COURSE CONTENT

Thursday, February 19th

Environmental Site Investigation
 CPT Equipment and Procedures
 CPT Data Interpretation
 Field Screening Tools
 Sampling Tools
 Small Diameter Well Installations
 Injection of Remediation Compounds
 Case Studies
 Field Demonstrations

Friday, February 20th

Geotechnical Site Investigation
 CPT Equipment and Procedures
 CPT Data Interpretation
 CPT for Liquefaction Assessment
 Case Studies
 Field Demonstrations

WORKED EXAMPLES AND CASE HISTORIES WILL BE GIVEN TO ILLUSTRATE THE CONCEPTS. A COMPREHENSIVE SET OF NOTES WILL BE PROVIDED TO ASSIST WITH THE COURSE MATERIAL.

COURSE INSTRUCTORS

Peter Robertson, Ph.D., Professor of Geotechnical Engineering, University of Alberta – Dr. Robertson has more than 25 years of professional experience in geotechnical engineering for both private industry and academia. Dr. Robertson has authored many papers on the application of the CPT for geotechnical and environmental engineering. His recent research has focused on the use of CPT in liquefaction investigation.

David Woeller, P.E., President, ConeTec, Inc. – Mr. Woeller is a geotechnical engineer with more than 25 years of professional experience in geotechnical site investigation and foundation design. He has specialized in the development of CPT techniques including the seismic cone, resistivity cone and SPT energy calibration systems for use in foundation design and liquefaction investigations.

ADDITIONAL COURSE DATES -- FEBRUARY 16TH & 17TH IN SAN FRANCISCO and FEBRUARY 23RD IN SAN DIEGO
 Visit our web site at www.greggdrilling.com/seminars for further details and alternate registration forms.

SHORT COURSE REGISTRATION FORM — HUNTINGTON BEACH

Payment must be received by Jan. 16, 2004 to qualify for early registration fee.

Mail/Fax your completed registration form to:

- Please indicate which seminar you plan to attend by checking the appropriate box:*
- Thursday- February 19, 2004 (Environmental only) \$175.00 early registration - \$250.00 late registration
- Friday- February 20, 2004 (Geotechnical only) \$175.00 early registration - \$250.00 late registration
- Both days- Feb. 19 & 20, 2004 (Env. & Geo.) \$275.00 early registration - \$350.00 late registration

Gregg In Situ, Inc. PHONE: 562-427-6899
 2726 Walnut Ave. FAX: 562-427-3314
 Signal Hill, CA 90755 E-MAIL: mkeating@greggdrilling.com
ATTN: Maryann Keating
*(Make checks payable to: **Gregg In Situ, Inc.**)*

Attendee Name _____ Title _____ Company/Agency _____

Address _____ City, State, Zip _____

Phone _____ E-Mail Address _____

Payment information: *Must be completed for processing. (Check one)* My check # _____ in the amount of \$ _____ is enclosed.

Charge my credit card in the amount of \$ _____ AMEX VISA MasterCard Card number: _____ Exp. Date: _____

Card holder name: _____ Billing Address: _____

Registration fee includes seminar, reference materials, continental breakfast, lunch, and break refreshments. Class size is limited; early registration is advised. On-site registration will be on a space available basis. A charge of \$75.00 for any cancellation within 10 business days of the seminar will be assessed. No refund for cancellation within three business days of the seminar will be offered. Notice of cancellation or substitution must be submitted in writing on letterhead listing attendee name and seminar date.