

# ASSOCIATION OF ENGINEERING GEOLOGISTS

Southern California Section
"Serving Professionals in Engineering, Environmental,
and Groundwater Geology Since 1957"

#### NEWSLETTER - MARCH 2001

#### MONTHLY DINNER MEETING

Date:

Tuesday, March 13, 2001

Location: Time:

Stevens Steak House, 5332 Stevens Place, Commerce, CA

5:30 p.m. - Social Hour; 7:00 p.m. - Dinner and

**Reservations:** 

Call (949) 253-5924 ext. 564 by 5:00 p.m., Friday,

March 9, 2001

**Presentation** 

Cost:

\$25.00 per person with advance reservations, \$30.00 at

the door, and \$12.00 for students w/ valid I.D., "No-

shows" will be billed \$10.00

**SPEAKER:** 

**Dr. Tom Rockwell** 

TITLE:

The great 2001 Gujarat, India earthquake: Observations on

regional tectonics, tectonic deformation and damage.

#### **ABSTRACT:**

The M7.7 2001 Gujarat earthquake produced damage over a very large area extending more than 500 km from Ahmedabad in the east to the Arabian Sea in the west. The most severe damage was limited to the 70 x 50 km mesoseismal area in which most structures collapsed. Much of the damage is due to the poor quality of construction which is mostly of rubblestone in the village areas. The death toll would undoubtedly been much greater had the earthquake occurred in the middle of the night, as most people were largely up and about. Buhj, which was on the edge of the main damage zone, generally faired much better than villages in the mesoseismal area and experienced collapse of primarily the older, unreinforced structures.

The earthquake occurred in an area of generally flat topography developed over late Mesozoic and early Tertiary structure. Tectonic landforms are generally lacking, and those that are present appear to be fairly old suggesting a long recurrence period for 2001-type earthquakes. This is interesting because the region has experienced several large earthquakes during the historical period, including a similar-sized event in 1819 in the Rann of Katchchh just to the north, which suggests greater rates of tectonism than indicated by the geomorphology. Apparently, the area is undergoing a cluster of earthquake activity, typical of mid-continental regions, and more earthquakes may be expected in the near future.

#### **OFFICERS**

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#### BIO:

Dr. Thomas Rockwell is both a professor of geology at San Diego State University and a principal in Earth Consultants International. A world-recognized expert in earthquake geology, he serves as Board member and Geology Group leader for the Southern California Earthquake Center. His recent studies have taken him around the World many times over the past few years, including to areas such as Israel, Turkey, India, Nepal, Portugal and other parts of Europe, Mexico, Mongolia, and China. Involved in the first paleoseismic studies along the Himalayan front in India and Nepal, Rockwell joined the teamed of geologists that went to Gujarat, India after the recent devasting earthquake there. Just back, his talk will focus on the geology, seimology, and damage associated with this earthquake.

#### **CHAIR'S COLUMN**

#### **By David Seymour**

Thanks to everyone that attended the February meeting, which was well attended and very informative. Members from Ventura to San Diego were there to hear **Mike Hart** discuss his study on bedding-parallel shear zones as landslide mechanism in horizontal sedimentary rocks. If you missed the meeting, we can still read Mike's paper in Environmental & Engineering Geoscience, vol. VI, no. 2, May 2000. Thanks again Mike for a great presentation.

Our March meeting will surely be just as exciting as February's, with **Dr. Tom Rockwell** from SDSU as our speaker. Tom will be speaking on the recent India **earthquakes!** March is a joint meeting with the Geotechnical Section of ASCE. Please bring a colleague with you to the meeting.

Our Legislative and Regulatory Affairs Chair, **Joe Cota**, attended the January 26, 2001 BGG meeting in Sacramento. We are currently evaluating the revisions to our ACT, which will be coming up for vote in the next few months. **Rob Larson**, past Chair and current BGG TAC member, is also involved with the revised act. Joe's summary of the meeting regarding these revisions will be included in the April newsletter. As a side note, due to the State's energy crisis, the BGG may become a lame duck by mid-year as two members will be ending their terms. If Governor Davis does not appoint new members (we are already short two), then the BGG will not have enough members to form a quorum. We'll keep you posted.

I'd like to thank **John Whitney** for his service as our Membership Chair over the last few years. **Wendy Schell** has volunteered to take over where John left off. I'd also like to thank **Chris Sexton** and **Charles Nestle** for their services on our Field Trip committee. Please contact me if you would like to help coordinating a field trip or have some ideas.

**Kerry Cato**, our Short Course Chair, has been working hard on coordinating a course on probabilistic seismic hazard analyses with **Thomas Blake** and **Dr. Robert Sewell**. More information is included in this newsletter.

I hope to see you at the March meeting!

#### E-MAIL OR SNAIL MAIL

We continue to receive requests from members for e-mail versions of the newsletter. You can request the change over at anytime, but please remember this is an either/or option. Please e-mail **Desirée Dier** at <a href="mailto:ddier1@home.com">ddier1@home.com</a> if you would like receiving the e-mail version only.

We are still working on our web site, which will include our newsletter, links, and other information.

#### YEAR 2001 CONTRIBUTORS TO OUR SECTION

#### Thanks to:

Larry Cann
William Elliott
Dr. Peter Weigand (CSUN)
GeoSoils Consultants, Inc.
Grover-Hollingsworth & Associates
Petra Geotechnical, Inc.
Stoney-Miller Consultants, Inc.
Zeiser Kling Consultants, Inc.

<u>Additional donations are still needed, so please</u> <u>consider sending in a contribution.</u>

#### **AEG NATIONAL AWARDS**

Nominations are now being accepted for 2001. The Awards Committee considers nominations for the following awards (for complete information, please consult the AEG Directory or website):

 Douglas R. Piteau Award – This award is presented to a Member of Associate Member who is age 35 or under, and has excelled in one or more of the following areas: technical accomplishment, service to the Association, and service to the engineering geology profession.

- 2. Claire P. Holdredge Award This award is presented for a publication by a Member(s) within the past 5 years that is judged to be an outstanding contribution to the engineering geology profession.
- 3. Floyd T. Johnson Service Award This award is presented to a Member for outstanding active and faithful service to the Association over a minimum of 9 years. Board members are not eligible until 1 year after leaving office. Nominations must be validated via endorsement by 3 Members having different Section affiliations. This award is not necessarily conferred annually.

The deadline for nominations to be considered for awards in 2001 is March 30, 2001. Please send nominations to Bill Cole, AEG Awards Committee Manager, c/o Cotton, Shires and Associates, Inc., 330 Village Lane, Los Gatos, CA 95030 (or to bcole@cottonshires.com).

#### **MEETINGS AND FIELDTRIPS**

#### GSA Cordilleran Section/AAPG Pacific Section-April 9-11, 2001

Where: Sheraton Universal Hotel, Universal City,

California

Contact:

www.geosociety.org

AEG/AIPG Annual Meeting-October 2-5, 2001

Where: St. Louis, MO

Contact:

www.aegweb.org

#### **IAEG 9<sup>TH</sup> Congress-September 16-20, 2002**

Where: Durban, South Africa

Contact:

http://stanfield.und.ac.za/Durban2002/

#### YEAR 2001 MEETING SCHEDULE

Date	Speaker	Location			
January 9	Dr. Susan	Steven's			
,	Owen	Steakhouse			
February	Mike Hart	Steven's			
13		Steakhouse			
March 13	Dr. Tom	Steven's			
(Joint w/	Rockwell	Steakhouse			
ASCE)					
April 2	TBA	TBA-in Orange			
(Joint w/		County			
SCGS)					
May 8	Andrea	Steven's			
	Donnellan-	Steakhouse			
	JPL	(tentative location)			
June	TBA				
July	NO MEETING				
August	TBA				
Sept. 11	Rex Upp-AEG	TBA			
	President				
October	NO MEETING	AEG National			
		Sept. 30 thru Oct. 7			
November	TBA				
December	TBA				

Please contact **Lorraine Muto**, Vice Chair, if you would like to volunteer as a speaker or have a "lead".

#### A NOTE FROM YOUR OFFICERS

Membership information for our section indicates that some members have not paid their 2001 dues. It is important that everyone stay current with their dues so that we are able to continue providing a newsletter to those individuals. A form has been provided as an insert to facilitate your payment.

#### A DAY IN THE FIELD WITH TOM DIBBLEE To Plate's Edge: San Fernando Valley to Palmdale

Saturday, 7 April 2001, 8:00 a.m. - 4:00 p.m.

The **Dibblee Geological Foundation** invites you to participate in a rare opportunity to visit several classic geologic locations and spend a day in the field with *living-legend* **Tom Dibblee, along with Peter Weigand, Karen Savage, Helmut Ehrenspeck, and Eric Hendrix.** The new Palmdale/Pacifico Mountain map by **Tom and Helmut** will be available and will be featured. There is dramatic geology, all mapped by Tom, for every interest on this field trip to the edge of the plate. We will make stops at **Vasquez Rocks, the San Andreas fault, the Soledad fault, and lunch in Placerita Canyon Park.**This trip is in association with the **2001 GSA CORDILLERAN/AAPG PACIFIC SECTION MEETING** 

Proceeds from this trip will benefit the Dibblee Geological Foundation; a nonprofit educational organization dedicated to the preservation and publication of Tom Dibblee's extensive geologic mapping of California. Spend a special day in the field with Tom and enjoy a great picnic while supporting this very important cause.

Fee: \$100.00 (includes coffee and donuts, bus transportation, guidebook, and lunch). Registration deadline is April 1st. Advanced registration is necessary to reserve a bus seat and lunch.

## UNDERSTANDING AND APPLYING PROBABILISTIC SEISMIC HAZARD ANALYSIS

This one-day short course has been designed to help you acquire greater understanding of probabilistic seismic hazard analysis (PSHA) and its applications. The course provides in-depth discussion of this specialized topic, in clear terms, with an emphasis on both fundamental and more advanced concepts. This course is jointly sponsored by the Association of Engineering Geologists (AEG), Southern California Section, and the Southern California Earthquake Center (SCEC).

Time:

Friday May 18, 2001 - 8:00 am to 5:00 pm

Location:

University of Southern California, Davidson Conference Center

3415 South Figueroa Street; Los Angeles, CA

In this course, Dr. Rob Sewell keeps unfamiliar mathematics to a minimum, and describes elements of probabilistic analysis in a transparent way, using familiar graphical illustrations of key concepts. The PSHA principles are explained and demonstrated with real-world examples that involve the application of PSHA software, such as the widely used program FRISKSP.

The course starts by clearly explaining basic principles, and then gradually builds to intermediate and advanced concepts. Basic topics include modeling, and treatment of random (aleatory) variability, for (1) earthquake sources, including source types and geometries, maximum magnitudes, seismic activity rates, and magnitude probability distributions; (2) the

5

earthquake rupture process, earthquake scenarios, and source-to-site distances; (3) ground motions, as related to magnitude, distance, and key geophysical parameters; and (4) the effects of local soil conditions. The discussion of basic concepts highlights the importance of (a) deterministic methods in describing the characteristics of possible earthquake scenarios, and (b) probabilistic methods in enumerating these scenarios and evaluating their likelihoods.

Intermediate concepts include determination of (1) hazard curves for spectral responses; (2) the uniform hazard spectrum (UHS); (3) near-source effects on the UHS, including average, fault-normal, and fault-parallel effects; (4) modification of spectra for soil effects; (5) deaggregation of PSHA results; and (6) hazard-compatible time histories. Advanced topics include (i) logic-tree methodology for analysis of expert/modeling (epistemic) uncertainties, (ii) sensitivity analysis, (iii) advanced PSHA approaches, (iv) risk analysis, and (v) management and quality assurance of PSHA projects. A clear explanatory presentation of each topic, and its relevance, will be provided.

#### Who Should Attend?

Engineers; geologists, seismologists, geophysicists, and other earth scientists; or any earthquake professional who is involved with, or has interest in, any of the following:

- Understanding the development, quantification, or utilization of estimates of ground motions or ground-motion hazard;
- Performing a study for any situation that involves seismic hazard or risk;
- Implementing the provisions for development of site-specific ground-motion design criteria according to applicable building standards (UBC, NEHRP, API, etc.);
- · Reviewing studies that are based on investigation, assessment, or use of ground-motion hazard; or
- Understanding the role of PSHA in the decision making process.

#### Instructors:

**Robert T. Sewell**, Ph.D. and Principal, R.T. Sewell Associates **Thomas F. Blake**, Fugro West

**Dr. Robert T. Sewell** is Principal of R.T. Sewell Associates, Consulting, and specializes in probabilistic hazard and risk analysis for engineering decisions. He has been involved in numerous studies of earthquake-related hazards, with recent projects including liquefaction risk assessment for a nuclear power plant, tsunami hazard assessment for a liquefied natural gas (LNG) development, evaluation of ground-motion design criteria for a new office building of the U.S. Embassy, and analysis of secondary fault-displacement hazard for a residential development in Southern California. Dr. Sewell is also a principal reviewer of seismic safety studies for the U.S. Nuclear Regulatory Commission and the Swiss Nuclear Safety Inspectorate.

Dr. Sewell has over 16 years of consulting experience on a variety of high-technology projects worldwide, including engineering and risk evaluation studies of nuclear power plants, pipelines, oil and industrial facilities, dams, solid waste landfills, a high-level waste nuclear repository, and conventional buildings. As a principal research investigator, he has been sponsored by various agencies to lead a variety of research projects on risk assessment, damage effectiveness of ground motions, and performance-based engineering. He is the author of several publications on engineering evaluation of hazards and risk, an engineering textbook, commercial software packages, and training seminars. Dr. Sewell received his Ph.D. in Engineering from Stanford University, and his Bachelors degree in Engineering from CSU, Chico. He is also a certified Project Management Professional.

Schedule 8:00 AM to 5:00 PM, Friday May 18, 2001

What Learning Materials are Provided with the Course?

Participants will receive a set of course notes with helpful information and worksheets, a list of useful Internet sites, and a CD-ROM containing valuable programs, data, and spreadsheets. In addition, you will receive a copy of Dr. Sewell's detailed paper describing the mechanics of probabilistic seismic hazard analysis methodology, which illustrates the complete manual solution of an example problem.

Continental Breakfast, Lunch, and an Afternoon snack will be provided by the Davidson Center.

Understanding and Applying Probabilistic Seismic Hazard Analysis

AEG Short Course, May 18, 2001

Name Company Address	Make check or money order payable to: Association of Engineering Geologists				
City/ST/Zip	Mail to:				
Phone	AEG Short Course, c/o Kerry Cato				
Email	Earth Consultants International, Inc. 41934 Main St., Suite 210 Temecula, CA 92590				
Course Fee: \$ 180 - AEG Members \$ 195 - Non-Members	remedia, a viscoso				
Send AEG membership information?	See you May 18th !!!				



# AEG • AIPG • 2001 ASSOCIATION OF ENGINEERING GEOLOGISTS AEDICAN INSTITUTE OF PROFESSIONAL CEOLOGISTS

AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS

Geology: Central to Society's Needs

JOINT ANNUAL MEETING - 44<sup>th</sup> AEG ● 38<sup>th</sup> AIPG

St. Louis, Missouri -- Hyatt Regency Union Station Hotel

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September 30-October 7, 2001



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#### Abstract submittals due May 1, 2001

> AEG•AIPG•2001 c/o Julie Keaton 130 Yucca Drive Sedona, AZ 86336-3222 (520) 204-1553 Fax: (520) 204-5597

#### Technical Program Topics

Engineering & Environmental Geophysical Case Histories
Environmental Practice in EPA Regions V & VII
Geologic Solutions to Transportation Concerns:
Highways & Waterways Groundwater Remediation
Karst Remediation
Midwest Geologic Hazards: Recognition & Risk Management
New Madrid Seismic Threat
Case Histories in Engineering Geology
Transportation Engineering Geology
Groundwater Investigations
Coastal and River Engineering Geology
Environmental Investigation & Clean-Up

(Abstract must not exceed 250 words and must include author's full name, company name, and company address below the title of the paper. We prefer that authors use Microsoft Word. Please include your daytime telephone number. See sample abstract submission form on AEG's Web Page: www.aegweb.org)

#### EMPLOYMENT OPPORTUNITIES

#### US LABORATORIES, INC.

USLB has immediate openings for Senior, Project and Staff level Geotechnical Engineers and Geologists, with 5 to 10 plus years of experience. We are also looking for experienced Field Technicians and Inspectors with appropriate certifications. Positions available in our Ventura, Irvine, San Diego and Las Vegas offices (BTC, TELA, TESD, BUENA).

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Attn: Human Resources c/o M. O'brien E-mail: <a href="mailto:mobrien@uslaboratories.com">mobrien@uslaboratories.com</a>

## BOARD OF REGISTRATION FOR GEOLOGISTS AND GEOPHYSICISTS

Mary Scruggs, the BRGG's current enforcement geologist, has accepted a position at CDMG, leaving a vacancy at the Board. The Board is currently accepting applications for the following:

Call for Volunteers (**State Board of Geologists and Geophysicists**): A pool of volunteer geologists and geophysicists is being established to fill openings on the Board's standing committees as they occur. The committees are: Examination, Technical Advisory and Legislative. If appointed to a committee, an individual is expected to donate 6 to 8 days per year to attend committee meetings plus additional time for projects. Committee appointments are unpaid except for expenses. If you are interested in volunteering, please submit your resume to the Board and specify your interests. 2535 Capitol Oaks Drive, Suite 300A Sacramento, CA 95833 - (916) 263-2113 (ph) (916) 263-2099 (fax) - geology@dca.ca.gov

#### ASSOCIATE ENGINEERING GEOLOGIST

DESIRABLE QUALIFICATIONS – A CEG license issued by the BRGG with experience in land development and groundwater contamination. Final filing date is JANUARY 2, 2001. Submit your application, Form STD 678, resume and sample of writing abilities to:

Paul Sweeny, Executive Director Board of Registration for Geologists and Geophysicists 2535 Capitol Oaks Drive, Suite 300A Sacramento, CA 95833

Equal opportunity to all regardless of race, color, creed, national origin, ancestry, sex, marital status, disability, religious or political affiliation, age or sexual orientation.

# DIVISION OF MINES AND GEOLOGY ASSOCIATE ENGINEERING GEOLOGIST 2 Positions, Permanent, Full Time, (\$4418-5370), Department of Conservation, Division of Mines and Geology, 801 K Street, MS 12-31, Sacramento, CA 95814. Apply ASAP

Division of Mines and Geology (DMG), Seismic Hazards Mapping Program is a world renowned program in seismic zonation, and exploits the latest technologies in digital mapping. Immediate vacancies exist in our Los Angeles and Sacramento offices. Associate Engineering Geologists are being sought with experience in Quaternary geologic mapping or seismic hazard analysis. Experience in seismic hazards evaluation is desired, with emphasis on the engineering behavior of geologic materials and its effects on building foundations and Experience in the geological consulting industry is an asset. Registration and engineering geologist certification is desirable, but not required. Experience, aptitude, or interest in computer-based geologic analysis is desired, and an extensive training program is provided.

**Please submit application/resume to:** Beatriz Crowl, Department of Conservation, Division of Mines and Geology, 801 K Street, MS 12-31, Sacramento, CA 95814, (916) 322-9300.

#### AEG SOCAL SECTION COMMITTEE CHAIRS

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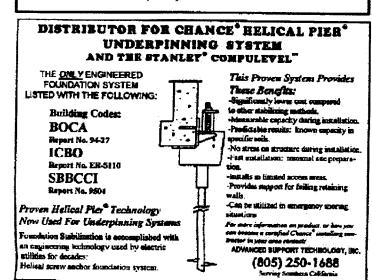
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Our report identifies agency-listed hazardous waste / contaminated sites, solid waste landfills, hazardous waste transfer stations, spills, underground storage tanks and leaking underground fuel tanks in proximity to the subject site. The databases used were obtained from selected government agencies in charge of collecting and keeping such records in accordance with ASTME-I527-00 (Standard Government Records Inquiry for Commercial Real Estate Transactions).

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Last Name	Member \$80.00 annually					
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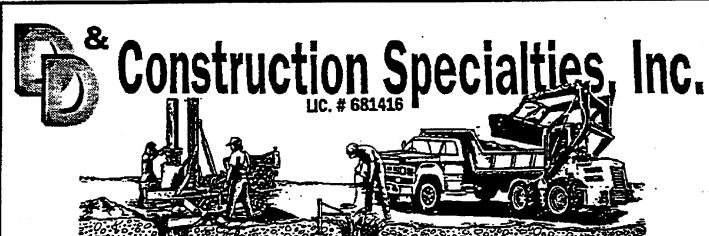


# Association of Engineering Geologists Southern California Section



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