Association of Engineering Geologists

Southern California Section

NEWSLETTER-February 1991

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2550 Beverly Blvd. (Los Angeles, CA 9005)

Dinner Meeting Tuesday February 12th

- The Airtel Plaza Hotel Restaurant 7277 Valjean Avenue Van Nuys
- Cost \$20.00 (Full-Time Students Free)
- Make reservations by Friday February 8th!!!

Grace (714) 860-7772 (Leighton & Associates) (Leave Your Name & Number of People in Your Party)

- 5:30 Social Hour
- ☐ 6:45 Dinner

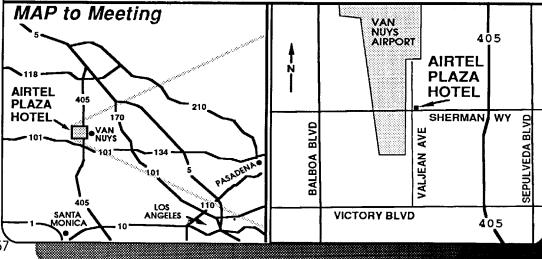
7:30 Announcements

3:00 Program

Program

TOPIC Management of San Fernando Valley Water Rights and Groundwater Contamination

SPEAKER Mr. Mel L. Blevins, P.E.



PROGRAM Topic & Speaker

Management of San Fernando Valley Water Rights and Groundwater Contamination

Mr. Mel Blevins, P.E.

Watermaster for the Upper Los Angeles River Area (ULARA) and Senior Waterworks Engineer for the City of Los Angeles Department of Water and Power (LADWP)

The planning for groundwater management in the San Fernando Valley Basin (SFVB) started more than 80 years ago when this basin was selected for temporary agricultural use of the water to be delivered by the Owens River Aqueduct. It was recognized that the return water (recharge) from such uses could be recaptured by the existing City of Los Angeles diversion facilities. In the 1930's, Owens River water was artificially recharged in spreading basins, for later pumping. After more than 100 years of litigation over water rights, the basin adjudication was finally completed in January 1979. It was believed that the main water management problem in the SFVB had been resolved. However, less than one year after the water rights judgement became final, volatile organic contaminants were discovered in large areas of the basin. This shifted emphasis of activities in the basin to rehabilitation and quality management.

Much work has been done over the last ten years to assess the areal and vertical extent of groundwater contamination in the SFVB. Mr. Blevins will discuss the improved understanding of the geology and hydrogeology of the basin as a result of the recent extensive well drilling and testing program conducted by the LADWP. This will include a discussion on the groundwater quality conditions and the results of contaminant transport numerical modeling.

Mr. Mel Blevins, P.E., is the Watermaster for the Upper Los Angeles River Area and a Senior Waterworks Engineer in the LADWP Water Executive Office. He has B.S. in civil engineering from San Jose State University, and a M.S. in civil engineering from USC. Mr. Blevins joined the LADWP in 1957 and has since been involved in a wide range of water supply and water rights studies and activities for the City of Los Angeles. Mr. Blevins has also taught a variety of "water" classes at a number of local universities. He was appointed Watermaster for the ULARA in January, 1979, and oversees the implementation of the Court's judgement in the San Fernando Valley.

THIS MONTH'S MEETING ATTENTION!!!

AEG has no track record or standing agreements with the Airtel Plaza Hotel, unlike our usual meeting place. The Hotel has strict rules on reservations and prepayment. We will be paying in full for all expected attendees on the Friday before the meeting. This means that the Section will have paid for, and lost money on anyone who reserves but does not attend, or otherwise arrange delivery of a check for \$20.00. At the same time, the Hotel has only a limited ability to accommodate extra people who show up without prior reservations. Absolutely no reservations for the February 12th meeting will be accepted after 12:00 noon on Friday, February 8th.

SECTION COMMITTEES

The following individuals have volunteered to serve in the committees that Eldon Gath has proposed for the Southern California Section of AEG. We are still looking for other members who are interested in getting involved in these section committees.

PROFESSIONAL REGISTRATION Chairman: Bob Hollingsworth Members: John Hansen, Marina

Robertson

PUBLIC RELATIONS

Chairman: Robert Ruff Members: Linda Tandy, Dale Glenn, Lisa Barnett

LEGISLATIVE AFFAIRS

Chairman: Hugh Robertson Members: Tom Slosson SHORT COURSE

Chairman: Dave Grover Members: Roy Shlemon FIELD TRIP

Chairman: Robert Larson

At-Large Volunteers (awaiting assignment, or who have expressed an interest): Gary Johnpeer, Ray Waldbaum, Mike Piepenberg, Richard Escandon, Tony Stirbys, Jim Lancaster, Dale Schneeburger, Roger Warner, and Dan Burns.

Continued on Page 3

1991 ANNUAL AEG FIELD TRIP

Bob Larson, chairman of the field trip committee, has announced that this year's field trip is tentatively scheduled for August 24th. Tom Blake will lead the trip, which will visit the general area of Santa Susana Mountains, Simi Valley, Camarillo and the eastern Oxnard Plain. The Simi-Santa Rosa fault will be highlighted. Papers and suggestions for field trip stops are needed in order to make this a successful trip, so please volunteer. Papers on all aspects of engineering geology, hydrogeology, as well as general geology are welcome. Please contact Tom Blake at (805) 650-7000 or Rob Larson at (818) 458-4923. The deadline for submittal of papers is June 1st.

As the date of the field trip approaches, Bob Larson will also need about 20 volunteers willing to help him put together the field-trip guidebook.

MEMBERS NEWS

Through Bob Bean we have been informed that J.R. (Bob) Townsend (1912-1990) died November 27th. Bob Townsend was an engineering geologist and member of AEG during his active professional years. Mr. Townsend received Bachelors and Masters degrees in geology from UCLA. He worked for most of his career with the U.S. Army Corps of Engineers, on projects that included the San Jacinto tunnel bringing water from the Colorado River to southern California, and the Lake Mathews and San Antonio Dams. In addition to his active membership in AEG, Bob Townsend was a member of the Branner Club, and a Fellow of the Geological Society of America. We will miss Bob Townsend, a good friend and capable engineering geologist. The projects to which he contributed his expertise stand as memorials.

LAST MONTH'S MEETING

The keynote speaker at last month's meeting was Dr. Khosrow Bakhtar, president of Bakhtar Associates in Long Beach. Dr. Bakhtar is a specialist in geomechanics, tunneling and construction engineering. He talked about rock classification for engineering designs, summarizing the six major rock classification systems that have been developed (Rock loads - Terzaghi; Stand-up-time - Leuffer; Rock Quality Designation (RQD) - Deere; RSR - Wickham and others; Rock Mass Rating (RMR) - Bienlawski; and Q-system - Barton. He then described in more detail the parameters necessary to define the Q-system classification, including the joint-mass characteristics (roughness along the joints), the filling, if any, in joints, the presence of groundwater, etc. To finalize his presentation, Dr. Bakhtar talked about a tunneling case history in southern California where the Q-system was used to characterize the three major joint systems present in the tunnel's rock mass.

FIELD OF EXPERTISE DOCUMENT

Hugh Robertson, chairman of the Legislative Affairs Committee, talked about the misuse of the "Fields of Expertise" Document. This document, which was drafted by a joint committee of the American Society of Civil Engineers and the Board of Registration for Geologists and Geophysicists, had as intent to identify the areas where civil engineering and engineering geology overlap. The document lists those activities which only engineering geologists or civil/geotechnical engineers can perform, and those activities which both can perform. The classifications were meant to serve as guidelines when a jurisdictional complaint is filed with either board. Although the Field of Expertise was not meant to have any legal status, the document has improperly being used as a regulation. If legal status is awarded to this document, the practice of Engineering Geology, particularly by small consulting firms, may be affected.

The document is reproduced on pages 4 and 5 of this newsletter for your information.

LOCAL PROFESSIONAL MEETINGS HELD REGULARLY:

Coast Geological Society: Dinner meetings every third Tuesday of the month, October-June; American Legion Hall, 83 South Palm Street, Ventura.

Inland Geological Society: Dinner Meeting third Thursday of each month, San Bernardino County Museum, Orangetree, Redlands. Contact: Jay Martin @ (714) 888-2422.

Los Angeles Basin Geological Society: Lunch meetings third Thursday of every month; now at Luminarias Restaurant, Monterey Park.

San Diego Association of Geologists: Dinner meetings third Wednesday of every month - locations throughout San Diego area. Contact: (619) 292-8030 (Leighton & Assoc., San Diego office).

San Joaquin Geological Society: Dinner meeting second Tuesday of every month except July-September, American Legion Hall, 2020 "H" Street, Bakersfield.

South Coast Geological Society, Inc.: Dinner meetings first Monday of each month, Revere House, 900 West First Street, Tustin.

Positions Available

Ads in this section are welcome at no cost.

Position Available for Licensed Geotechnical Engineer

Salary commensurate with qualifications; benefits and stock-options available. For further information CONTACT:

> Mr. Gerald Gray (1-800) 255-7645. Send resume to: Associated Soils Engineering 3320 Airport Way Long Beach, CA 90806

Career Opportunity for Licensed Soil Engineers

Position available for a CA-registered civil engineer with 3-5 years experience in geotecnical engineering. CONTACT:

> Juan A. Vidal or Al Guerrero (818) 989-5338,

or send resume to:

RSA Associates. Inc. 19414 Cabrito Road, Unit A Van Nuys, CA 91406

Career Opportunities for Geologists and Hydrogeologists

for project management positions in southern California with established environmental consulting firm. Excellent work environment and benefits. Job requirements include:

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> Steve Sullivan @ (714) 434-4812 or Terri Parrish @ (714)724-9173, or FAX resume to (714) 545-3397.





555 Paularino, Suite H-106 Costa Mesa, CA 92626

Career Opportunity for **Environmental Geologist**

Minimum two (2) years experience in site assessment investigations. Send your resume and salary history to:

Personnel Department Clayton Environmental Consultants, Inc. 5785 Corporate Avenue Cypress, CA 90630

FIELD OF EXPERTISE DOCUMENT

Registered Geologist (RG)

Engineering Geologist (CEG)

Both

Civil Engineer Competent to Practice, or Geotechnical Engineer

Classification and Physical Properties

Rock description and classification Origins of rock

Source area

Visual soil description Wentworth, and Unified Soil Classification System Testing of earth materials for classification and physical properties

Rock Mechanics

Descriptive Rock structure and jointing Qualitative performance of of rock masses configuration Attitude in nature (joints, fractures, bedding, etc.)

In-situ studies Regional and local studies

Quantitative performance or rock masses, e.g., rock testing, stability analysis, stress distribution, and rebound evaluation

Slope Stability (3)Interpretative stability of of natural rock cut slopes Geologic analysesgeometrics

Spatial relationship

Excavation in hilly terrain Causative agents Quantitative slope stability analysis utilizing developed material properties, hydrostatic forces and configuration

Soil and Rock Mapping

Geologic mapping Air photo interpretations Geomorphology

Subsurface geology Project Planning Development of geologic

parameters Geologic feasibility Surface Waters Geometric relationships

Soil-type mapping

Analysis of effects of geologic conditions on proposed projects

> Stream description Silting potential Erosion potential Sedimentary processes

Engineering analysis of effects of subsurface Economics

Source of material

Volume and rate of runoff Design of works for control Coastal and river engineer-Hydrology

Groundwater Hydrogeology Occurrence Geologic structural controls Direction of movement **Underflow studies** Characteristics of waterbearing and non-water bearing materials

Drainage Contamination Well design Subsidence Field permeability Transmissivity Specific yield Storage computation Engineering hydrology Mathematical treatment of well systems Development concepts Design of dewatering systems Regulation of supply Economic considerations Laboratory permeability

Earthquakes and Ground Vibrations Location of faults Evaluation of potential fault activity Qualitative ground

vibration analysis

Seismicity Historic record of earthquakes

Response of soil and rock materials to seismic activity Seismic design criteria for structures Laboratory soil dynamics tests

Quantitative ground vibration analysis

Subsurface Exploration Logging of rock material Down-hole observations for structure geometry

Planning Supervision Observation Logging of soil borings Sampling

Planning program as related to proposed project and structural loads

Construction Observation Excavation in rock material

Grouting Tunnel construction Conduits

Structural foundation conditions Earth and earth/rock embankments **Payements**

Continued on Page 5

Professional Services

Business-card size advertisement space available for \$50.00/year.

FIELD OF EXPERTISE DOCUMENT CONTINUED

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Visual identification

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loadings

Preparation of parameters

for limiting

Development of mitigating

solutions

(12) **Embankment Fill** Qualitative evaluation

of removal of unsuitable material

Visual classification Qualitative evaluation of borrow material Removal of unsuitable material

Design and construction quality

Specifications Evaluation of potential deformations

Evaluation of stability Seepage control measures Quantitative evaluation of removal of unsultable

material

Instrumentation Vadose zone monitoring

Water level recorders Slope inclinometers Rock stress and deformation devices Piezometers and observation wells Settlement movements Seismometers and accelerometers Water quality monitoring Tiltmeters

Pore water pressure monitorina Soil pressure devices Vibration monitoring and analysis Pile load testing

Tensioning tie-backs

Meteorology stations

Stream gages

Regulatory Requirements Provide engineering geology as required

(15)Joint Efforts Provide engineering analysis as required

Site selections Planning investigations Conducting samples for testing Interpreting data Describing and explaining site conditions Stability of natural slopes Construction observation Input to urban planning Input to environmental studies

(16)Hazardous Waste Reports

Water wells Geotechnical borinas Monitoring wells Toxic pits Resources Conservation and Recovery Act (RCRA) Toxic fluid monitoring Underground tanks Solid waste disposal sites Waste discharge to land Broad studies encompassing planning, coordination of disciplines including professional engineers, analysis and findings, preparation of conclusions and recommendations

Continued on Page 6

Association of Engineering Geologists, Southern California Section **Publications**

	<u>Price</u>
1. Association of Engineering Geologists, 1965, Geology and Urban Development: Association of Engineering Geologists, Los Angeles Section, Special Publication of the Building Codes and Related Matters Committee.	1.00
2. Moran, D.E. et al., editors, 1973, <u>Geology, Seismicity and Environmental Impact</u> : Association of Engineering Geologists, Special Publication.	25.00a
3. Nicks, R.R., field trip chairman, 1973, Field Trips Guidebook: Association of Engineering Geologists, Annual Meeting.	5.00b
4. Byer, J.W., field trip chairperson, 1975, Sycamore Canyon Fault, Verdugo Fault, York Boulevard Fault, Raymond Fault, and Sierra Madre Fault Zone: Association of Engineering Geologists, Field Trip Guidebook, September 27.	10.00
5. Stout, M.L., field trip chairman, 1976, <u>Geologic Guide to the San Bernardino Mountains, Southern California</u> : Association of Engineering Geologists, Southern California Section, Annual Spring Field Trip, May 22.	15.00
6. Fife, D.L. et al., editors, 1978, Failure of the St. Francis Dam, San Francisquito Canyon, Near Saugus, California: Association of Engineering Geologists, Southern California Section, Special Publication Commemorating the 50th Anniversary, March	1.00
7. Lamar, D.L., field trip chairman, 1978, <u>Geologic Guide and Engineering Geology Case Histories, Los Angeles Metropolitan Area</u> : Association of Engineering Geologists, First Annual California Section Conference, May 12-14, 1978.	18.00
8. Keaton, J.R., field trip chairman, 1979, <u>Field Guide to Selected Engineering Geology Features, Santa Monica Mountains</u> : Association of Engineering Geologists, Southern California Section, Annual Field Trip, May 19.	15.00
9. Buesch, D., editor, 1979, <u>Geomorphic Applications in Engineering Geology</u> , <u>A State of the Art Short Course</u> : Association of Engineering Geologists, Southern California Section, Reprint of text prepared for the Short Course held at California State University, Los Angeles, November 10-11.	15.00a
10. Miller, J., field trip chairman, 1983, <u>Sierra Madre and Related Fault Zones</u> : Association of Engineering Geologists, Field Trip Guidebook, May 21, 1983 (w/o large graphics).	18.00
11. Hollingsworth, R.A., field trip chairman, and Robertson, H.S., field trip co-chairman, 1984, <u>Field Guide to Selected Engineering Geologic Features. Malibu. Los Angeles County. California</u> : Association of Engineering Geologists, Southern California Section, Annual Field Trip, June 2.	15.00
 Cugno, G. and Irvine, J., compilers, 1987, <u>Selected Landslides and Stabilization Projects of the Santa Monica Mountains</u>. <u>Association of Engineering Geologists</u>, Southern California Section, Annual Field Trip, June 20, 1987. 	20.00a
13. Cann, L. and Steiner, E., field trip leaders, 1989, <u>Engineering Geology Along Coastal Orange County</u> : Association of Engineering Geologists, Southern California Section, Annual Field Trip, September 23.	15.00b
14. Buckley, C. and Larson, R., editors/compilers, 1990, Geology and Engineering Geology of the Western Soledad Basin, Los Angeles County, California: Association of Engineering Geologists, Southern California Section, Annual Field Trip Guidebook, November 3, 1990.	25.00c
a Limited number of copies available.	

- b No copies available at present. Prices may change with reprinting.
- c Reprints should be available by the end of February. Current price is an estimate and may be subject to change.

Copies of these publications, if reprints are available, can be purchased from Terri Beehner during the regularly-scheduled Southern California Section of AEG meetings, or by using the order form on next page.

AEG PUBLICATIONS ORDER FORM Name: Mailing Address: Phone Number: Circle number of desired publication(s) and fill in required information below: Pub. No. Price No. Copies Total Cost \$1.00 2 25.00 3 5.00 4 10.00 5 15.00 6 1.00 7 18.00 8 15.00 9 15.00 10 18.00 11 15.00 12 20.00 13 15.00 14 To be Announced To be Announced GRAND TOTAL \$_____ Make checks payable to: Association of Engineering Geologists (AEG), Southern California Section. Send check and order form to: Leighton and Associates, Inc., Attn: Terri S. Beehner 1737 Atlanta, Suite 1, Riverside, CA 92507 For further information regarding these AEG publications, contact Terri Beehner at (714) 788-5800. If you are interested in buying publication No. 14, give Terri a call so she can have an idea of how many reprints to order.

Seminars/Meetings/Field Trips

FEBRUARY 1991

5-7 "Microbial Processes in Degradation of Ground Water Contaminants", Albuquerque, NM. CONTACT: National Water Well Association, 6375 Riverside Dr., Dublin, OH 43017 (614) 761-1711.

MARCH 1991

12-14 "Sensors Expo West" San Jose, CA. Will include a series of short courses and a technical conference program that will introduce the latest in sensors and related equipment, including applications in earthquake engineering and environmental geology. CONTACT: (203) 374-1411 Ext. 131.

25-27 Cordilleran Section of GSA Meeting, San Francisco. CONTACT: Ivan Wong, Woodward-Clyde Consultants, 500-12th St., Suite 100, Oakland, CA 94607, (415) 874-3014.

25-28 **"Analysis and Design of Aquifer Tests - Newly Revised to Include Fracture Flow Theory and Problems"**, Dublin, Ohio (also in September 10-13, 1991). CONTACT: National Water Well Association, 6375 Riverside Dr., Dublin, OH 43017, (614) 761-1711.

APRIL 1991

10-12 "Engineering Geology and Geotechnical Engineering", Logan, UT. Utah State University and Idaho and Nevada Universities. CONTACT: Utah State U. (801)750-1220 Dept. of Geology, Utah State University, Logan, Utah 84322-4505.

15-19 'MODFLOW (USGS Modular Flow Model) for Simulation of Ground Water Flow and Advective Transport', Reston, Virginia (also in Dallas, Texas on November 18-22, 1991). CONTACT: National Water Well Association. 6375 Riverside Dr., Dublin, OH 43017, (614) 761-1711.

22-24 Rocky Mountain-South-Central Section of GSA Meeting, Albuquerque, New Mexico. CONTACT: Michael Campana or Lee Woodward, Dept. of Geology, University of New Mexico, Albuquerque, NM 87131 (505) 277-4204. Abstract deadline: December 20, 1990.

It's Time to Renew Your Annual Fees for the AEG Southern California Section. Your annual fees to AEG

International do not include the Section fees. The \$25.00 fee covers the operation of the section through publishing and mailing of the monthly newsletter, paying for expenses of program speakers, meals for students at meetings, and the expense of our lobbyist in Sacramento.

You will <u>not</u> receive an invoice for renewal other than the notice located here. If your newsletter is printed in pink, your fees are past due. This notice will be printed here for the December, January and February issues. You will notice on your mailing label, to the right of your name, the month and year when your fees will be or were due. You can ignore this notice if you made the effort of renewing.

To renew, send a check in the amount of \$25.00 made out to "AEG" or "Association of Engineering Geologists" to the Section Secretary/Newsletter Editor at the address below. Please note any change of address on the mailing label below or on the form to the right.

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