

SAN DIEGO ASSOCIATION OF GEOLOGISTS

www.sandiegoeologists.org

SDAG ANNUAL HOLIDAY MEETING ANNOUNCEMENT

Wednesday, January 17, 2006

PERSISTENCE OF LNAPL SOURCES: RELATIONSHIP BETWEEN RISK REDUCTION AND LNAPL RECOVERY

presented by

David Huntley, Ph.D.
Professor Emeritus, SDSU

Where: Catalina Room (former Salmon House)
Marina Village Conference Center
1936 Quivira Way, San Diego, CA 92109

When: **Note the New Times!**
6:00 pm – Social Hour
6:30 pm – Dinner
7:30 pm – Program

Directions: FROM INTERSTATE 5: Take the SEA WORLD DRIVE exit. From SEA WORLD DRIVE, take WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left turn lanes. Turn left, go one very short block and turn left again. Drive about one half mile and MARINA VILLAGE will be on your right.

FROM INTERSTATE 8: Take the WEST MISSION BAY DRIVE exit to the right. You will be on INGRAHAM STREET for a short distance from which you will take the next exit marked WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left turn lanes. Turn left, go one very short block and turn left again. Drive about one half mile and MARINA VILLAGE will be on your right.

Dinner: California Buffet: Seasoned Baron of Beef and Oven Roasted Seasoned Chicken. Choice of: Scalloped potatoes, mashed potatoes, red potatoes, or wild rice. Choice of: Grilled vegetables, zucchini, or green beans. Coffee and beverage station. Full cash bar.

Cost: \$30 per person, \$20 for students, \$5 discount for members and their guests. Add \$5 if you did not make a reservation.

Reservations: Make your reservation **online** at www.sandiegoeologists.org or call the SDAG Reservation Hotline at (619) 255-8380, **no later than 12:00 p.m. Saturday, January 13th.**

RESERVATIONS CANNOT BE ACCEPTED AFTER *Saturday AT Noon.*
IF YOU DO NOT MAKE A RESERVATION, WE CANNOT GUARANTEE YOU A MEAL.

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BIOGRAPHICAL SUMMARY: DAVID HUNTLEY, PH.D.

David Huntley is a Professor Emeritus at San Diego State University, where he has taught groundwater hydrology since 1978. He received his B.A. degree from University of California, Santa Barbara and his Ph.D. from Colorado School of Mines. He is Associate Editor of both Ground Water and Ground Water Monitoring and Remediation. His primary area of research interest is in the distribution, mobility, and dissolution of non-aqueous phase liquids, control of geologic heterogeneities on dissolved phase solute transport, and groundwater in fractured crystalline rock aquifers.



Persistence of LNAPL Sources: Relationship Between Risk Reduction and LNAPL Recovery

Light nonaqueous phase liquids (LNAPLs), such as fuels, are the source of much soil and groundwater contamination. Though the mobility of LNAPLs is limited in many environments, dissolved-phase components, such as benzene, can produce groundwater plumes that are more mobile than the LNAPL source. In such a setting, it is commonly assumed that recovery of the LNAPL will result in a reduction in risk associated with the dissolved phase. This paper synthesizes several existing multiphase and chemical transport solutions into a single linked methodology that predicts concentrations of soluble constituents within and downgradient of LNAPL source zones from dissolution of those constituents into groundwater flowing through and below LNAPL sources. This approach has been applied to a variety of LNAPL spill conditions. For biodegradable compounds, these analyses show that the period of time where the dissolved phase plume is expanding is very small compared to the duration of most LNAPL sources, and that the downgradient extent is generally less than about 100 m for BTEX compounds. Therefore, the risk to receptors, as measured by the maximum downgradient extent of dissolved-phase plume or the maximum concentration of these compounds at a downgradient receptor, is generally unrelated to the longevity of the LNAPL sources. The maximum downgradient extent of the dissolved-phase plume is determined almost entirely by the groundwater velocity and the biodegradation rate. These analyses further demonstrate that recovery of LNAPL by hydraulic methods is often ineffective at reducing risk. Except in coarse-grained soils or intermediate soils with significant LNAPL saturations, free-product recovery approaches do not result in significant reductions in the longevity of downgradient dissolved-phase contamination. Further, for biodegradable constituents, remediation does not result in a near-term decrease in the downgradient extent of contamination. Cleanup methods that act to change the composition of the LNAPL source are more effective at reducing the downgradient concentrations, particularly for fine-grained soils or when LNAPL saturations are low.

ANNOUNCEMENTS:

70th Street Trolley Station geology information panels, prepared by San Diego Association of Geologists, San Diego State University, and the San Diego Natural History Museum, will be installed this month. On Wednesday, January 31, from 8:00 to 10:00 am, the Metropolitan Transit Authority will hold an event to recognize the artists and scientists who helped to create the four stations that make up the new Mission Valley East trolley extension.



Dr. David Huntley will be teaching the Aquifer Testing Class this next semester, probably for the last time. It will be taught on 4 Saturdays (Jan 27, Feb 10, March 10, and March 24 from 9 am to about 3 pm). The course number is Geol 653 and can be registered for through SDSU extension for a grade or credit/no credit or audit. Check the SDSU website for more information www.geology.sdsu.edu

Advanced Aquifer Testing Featuring AQTESOLV: New Concepts, Field Methods, and Data Analysis Procedures

February 27, 28 and March 1, 2007 at the University of San Diego

Instructors:

Jim Butler, PhD., PG; Kansas Geological Survey and the 2007 NGWA Darcy Lecturer

Glenn Duffield, Author of AQTESOLV

Shlomo P. Neuman, PhD, University of Arizona.

**** Dr. Neuman-- the author of numerous landmark references in well hydraulics – will teach key portions of this course, not to mention the two other notable hydrogeologists who are changing how our industry designs, conducts, and analyzes both slug tests and pumping tests*****

Course Details provided in attached file and at: <http://www.midwestgeo.com/sandiego2007.htm>

2007 SDAG MEETING SCHEDULE - Mark your Calendars!

Meetings are usually on the 3rd Wednesday of the month but may change to accommodate speaker and meeting place schedules. Check here for updates!

February 13	Joint Meeting with AEEG (Note the Tuesday Meeting date)
March 21	SDAG Student Scholarship Presentation
April 18	Ken Hudnut on LIDAR

PRESIDENT'S CORNER:

Thanks to Phil Farquharson for four years of enthusiastic activity, culminating with an outstanding program in 2006 and a fine holiday meeting at the Natural History Museum. We'll miss your humorous anecdotes and colorful phrases. I hope you'll stick around and participate in other ways as an esteemed past president.

Personally, I'll return to the Museum to take a longer look at the Fossil Mysteries exhibit. It looks like Tom Demere and his crew have really outdone themselves on that fantastic exhibit. Thanks, Tom, for showing us how the exhibit was created, both in the field and in the lab.

Happy New Year! Please welcome our new treasurer Byran Miller-Hicks. John Teasley, Mike Ertwine, Elizabeth Hartung are warmly welcomed as at-large board members to help execute our many activities.

We meet January 17, the 12th anniversary of the Northridge earthquake, and 11th anniversary of Kobe. Enjoy a new venue, the Marina Village Conference Center, Catalina Room. Old timers will remember it as the old Salmon House. Ranch Catering will provide a delicious buffet and cash bar. This arrangement will help to keep our dinner fee at \$30.

We have a full and exciting year planned.

- * More joint meetings
- * A revival of "one stop wonder" mini field trips throughout the year
- * In September, at AEG's annual meeting in LA, present San Diego geology
- * October's annual field trip to Baja California
- * Complete our organization's incorporation by the end the year

New President - I'm looking forward to my year as SDAG president, my 4th year on the executive committee. Please continue to provide suggestions on speakers, topics, field trips, and other activities you'd like us to do.

Happy New Year,

Dave Bloom

2006/7 CORPORATE SPONSORS - THANK YOU!!

Corporate sponsors provide a significant portion of SDAG's operating and scholarship budget. In addition to monthly recognition for your contribution, you are entitled to a free Internet "link" from [SDAG's Website](#). We also list Corporate Sponsors in our annual SDAG Field Trip Volume. ***Please consider SDAG sponsorship in 2007!***

A special thank you to **Ninyo & Moore** for sponsoring the preparation, duplication, and mailing of the newsletter for 2006 and 2007!

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JOB OPENINGS!

TN & Associates, Inc. specializes in environmental services, natural resources, infrastructure engineering, and construction services. Our San Diego office is currently looking to fill the following positions:

Staff Geologist: Geologist to perform office and field assignments for environmental site assessment and remediation projects. Position will involve soil borings, monitoring well installations, soil and water sampling, historical research investigations, data management, construction documentation and construction QA/QC, and report writing. Ability to adapt to both office and field environments a must. OSHA 40-hour training a plus. Periodic travel is required.

Project Geologist: Geologist with 3 to 7 years experience required in conducting all aspects of field investigations including limited site assessments, multi-task remedial investigations and remedial actions with a strong emphasis in technical writing skills. The ideal candidate will have experience in data analysis and reporting. PG registration and OSHA 40-hour training a plus. Work will entail some fieldwork and travel, mainly within California. Experience with government projects (DOD, USACE, AFCEE, Navy and USEPA) landfills and stormwater engineering/compliance a plus.

We offer a competitive salary, benefits package and friendly working environment. Equal Opportunity Employer. Please mail or fax your resume and letter of interest to: T N & Associates, Inc., 2247 San Diego Avenue, Suite 238, San Diego CA 92110, fax 619-291-8100.

Since 1986, clients have turned to **Ninyo & Moore** for innovative solutions to complex geotechnical and environmental challenges. As a leading geotechnical and environmental sciences engineering and consulting firm, Ninyo & Moore provides specialized services to clients in both the public and private sectors. With offices in Colorado, California, Nevada and Arizona, the firm is fully committed to being responsive, cost-efficient, and thorough in meeting its clients' project needs and objectives.

Ninyo & Moore Geotechnical & Environmental Sciences Consultants has immediate employment opportunities in our Denver, Irvine, Las Vegas, Oakland, Phoenix, and San Diego offices. Positions include Engineers and Geologists of all levels, including **Staff Engineers and Geologists, Project Engineers and Geologists, Staff and Project Environmental Scientists, Chief Geotechnical Engineer, and Construction Field and Laboratory Technicians.**

The successful candidates should have a BS or MS degree for staff-level positions and five years or more of experience for project to senior-level positions. The candidates should be detailed oriented and have excellent verbal and written communication skills. Professional Engineer (PE) and/or Professional Geologist (PG) registrations preferred.

Ninyo & Moore offers a competitive salary, excellent benefits and an opportunity for professional growth. Please visit our website for complete and detailed job descriptions and to submit your resume in confidence at www.ninyoandmoore.com/careers or mail to our corporate office at 5710 Ruffin Road, San Diego, CA 92123, Attention: Human Resources. EOE

Hargis + Associates, Inc., a San Diego based consulting firm specializing in **hydrogeology and engineering**, and **SDAG Corporate Sponsor** currently has opportunities in our San Diego, California and Mesa Ari office. We are currently looking to fill the following positions:

Staff Engineer: Candidate would have a B.S. Degree in Chemical, Civil, or Mechanical Engineering, EIT Certification and/or a Masters Degree is a plus. Only entry level candidates will be considered. Candidate should possess strong writing and presentation skills. Position will be based in San Diego, California, and will require some travel and field work. OSHA 40-hour training preferred, but not mandatory.

Hydrogeologist: Candidate would have a B.S. Degree in Geology and M. S. Degree would be a plus. Entry level position, with work including soil and groundwater sampling, well installation, aquifer test analysis, and report preparation. Candidate should possess strong writing and presentation skills. Candidate with Hydrogeology coursework or GIS background is a positive. Position will be based in San Diego, and will require travel and field work. Only entry level candidates will be considered. Valid driver's license and U.S. Citizenship required. OSHA 40-hour training preferred, but not mandatory.

Hargis + Associates offer competitive salaries and benefits, and a challenging work atmosphere. Hargis + Associates in an Equal Opportunity Employer. To learn more about Hargis + Associates, please visit our website at: www.hargis.com.

No phone calls please. Qualified candidates should send resumes, along with a cover letter summarizing experience and salary requirements to: Hargis + Associates, Inc., Attention: Phil Rosenberg, 2365 Northside Drive, Suite C-100, San Diego, CA 92108

Rincon Consultants, Inc. is an environmental sciences, planning, and engineering consulting firm with offices in Ventura, San Luis Obispo, and Carlsbad, California. The firm, a leader in environmental impact assessment, planning, biological resources, and soil assessment and remediation, seeks **Mid-Level** and **Senior Level Environmental Scientists** to work in the **Carlsbad** office.

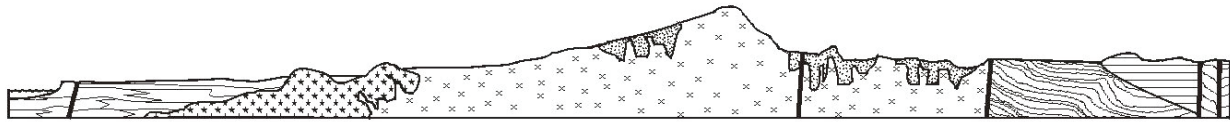
Mid-Level Requirements:

- Bachelor's degree in Geology, Biology, Environmental Science, Environmental Engineering, or related field (advanced degrees welcomed).
- 3-6 years experience in Phase I ESAs and soil/groundwater assessment/remediation.
- Excellent verbal and written communication skills.
- Field capabilities including logging borings, collecting soil and groundwater samples, and mapping and collecting soil samples for large remediation projects.
- OSHA health and safety training for hazardous waste sites.
- Well-organized, analytical, hard-worker, sense of humor, and good team player/leader.

Senior Level Requirements:

- In addition to fulfilling the Mid-Level Requirements above:
- Manage projects and personnel: prepare proposals, job assignments and schedules, track budgets, coordinate personnel and subcontractors, attend meetings, interact with clients and agencies, enforce use of guidelines and proper permits, troubleshoot problems, etc.
- Professional registration preferred.

E-mail your Microsoft Word cover letter and resume to Julie Marshall at jmarshall@rinconconsultants.com



SAN DIEGO ASSOCIATION OF GEOLOGISTS

www.sandiegogeologists.org

CALL FOR PAPERS:
**"Hydrogeology and Environmental Issues
in the Guadalupe Valley
and the Northern Coast of Baja California, Mexico"**

*To be published in association with the
2007 San Diego Association of Geologists
Annual Field Trip
October 13th-14th, 2007*

(<http://www.sandiegogeologists.org/Publications.html>)

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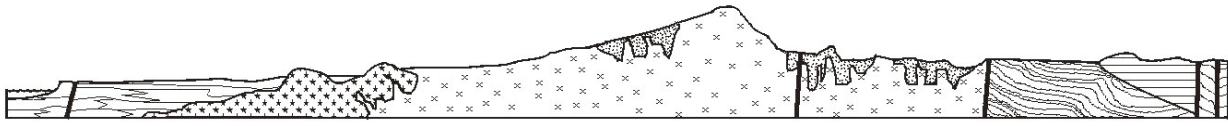
(tkretzsc@cicese.mx; 646 175 0500 Ext. 26047)

SCOPE: Papers addressing topics related to hydrogeology, geology, environmental issues, geography, wineries, and history of the Guadalupe Valley or the northern coast of Baja California.

TIMELINE:

- Email a statement of interest & topic to the co-editors as soon as possible
- Manuscripts due: April 15th, 2007
- Revised manuscripts due: July 1st, 2007
- Target publication date: late September, 2007

For further information, contact sgray@san Diego.edu or tkretzsc@cicese.mx



SAN DIEGO ASSOCIATION OF GEOLOGISTS

www.sandiegogeologists.org

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NEW POLICY: *Your membership dues include email delivery of the monthly newsletter. If you wish to receive a hardcopy of the newsletter through US Mail, please add \$10.00 to your membership dues.*

Dues:	_____ Student Member (email delivery only)	\$ 5.00
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	_____ Subscription to hardcopy newsletter	\$ 10.00
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