

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

[www.sandiegogeologists.org](http://www.sandiegogeologists.org)

## SDAG MEETING ANNOUNCEMENT

**NOTE: THIS IS A DUAL ANNOUNCEMENT/NEWSLETTER FOR MAY AND JUNE 2008 MEETINGS**

**Wednesday, May 21, 2008**

## *GEOMORPHOLOGY AND GEOLOGY OF EASTERN SIERRA NEVADA AND OWENS VALLEY REGION*

*Presented by*

**Chuck Houser, Associate Geologist, Petra Geotechnical**

**Where:** Catalina Room (southern end of MVCC) **SEE MAP**  
Marina Village Conference Center  
1936 Quivira Way, San Diego, CA 92109

**When:** 5:30 pm – Social Hour  
6:30 pm – Dinner  
7:30 pm – Program

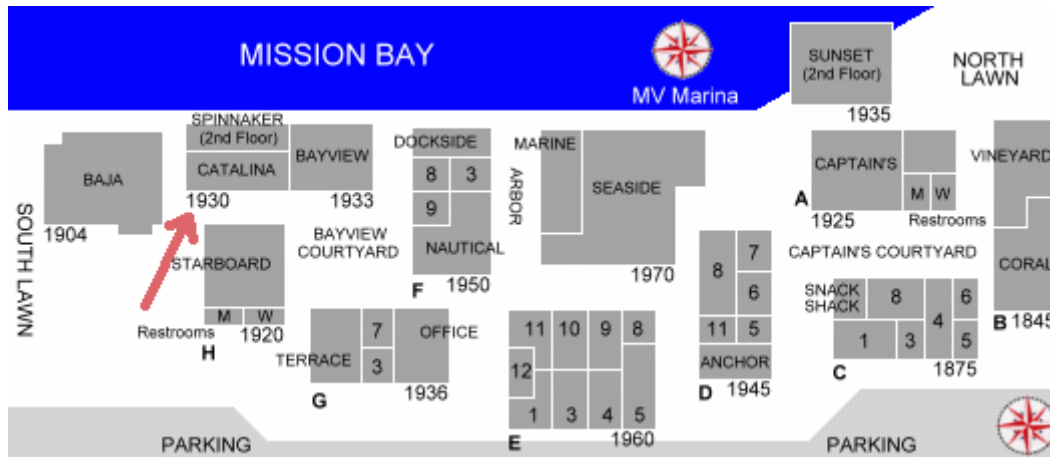
**Directions:** FROM INTERSTATE 5: Take the SEA WORLD DRIVE exit. From SEA WORLD DRIVE, take WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left turn lanes. Turn left, go one very short block and turn left again. Drive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

Italian Buffet. Beverage station. Dessert. Cash bar.  
Cost: \$30; \$15 Students; \$5 discount for current SDAG Members

**Reservations:** Make your reservation **online** at [www.sandiegogeologists.org](http://www.sandiegogeologists.org) **no later than noon, Monday, May 19th**



## 2008 SDAG MEETING SCHEDULE - Mark your Calendars!

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

June 11th	Joint meeting with South Coast Geological Society, San Juan Capistrano; Jeffrey Keaton
July 16th	Joint meeting with the San Diego Chapter of AEG; Dorian E. Kuper

## 2008 EXECUTIVE COMMITTEE

**PRESIDENT** - Sarah Gray; University of San Diego, Ph: (619) 260-4098; fax: (619)260-6874; [sgray@sandiego.edu](mailto:sgray@sandiego.edu)

**VICE PRESIDENT**- Scott Snyder; Ninyo & Moore; Ph: (858) 576-1000; [sdag2006@prodigy.net](mailto:sdag2006@prodigy.net)

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**TREASURER** - Chuck Houser; PetraGeotechnical Inc.; Ph: (858) 485-5530; [chouser@petra-inc.com](mailto:chouser@petra-inc.com)

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## SPEAKER BIO

Chuck Houser grew up in San Diego and received his BS and MS in Geology from San Diego State University. He is an Associate Geologist for Petra Geotechnical and the Treasurer for San Diego Association of Geologists.

## ABSTRACT

In December 1977, Chuck Houser obtained a private pilot license. After a hiatus from flying from the mid-80's, he began flying again about five years ago. As a result of the shared interest in fly fishing between Chuck and his flight instructor, Ken Sheppard of Rison Aviation, they have been making annual trips to the Eastern Sierras, "flying to fly fish" trips. As a result of those trips, Chuck has been amassing many photos of the interesting terrains and geologic features between San Diego County and the Bishop/Mammoth area of the Sierras. The presentation at the May 21st SDAG meeting is the culmination of the flying trips and photo gathering (so far). Photos taken from the air are augmented by ground photos and portions of State geologic maps. Among the geologic features you will see are glacial geomorphology, faults, volcanos, batholithic rocks of the Peninsular Ranges and the Sierras, and some neat aerial views of Southern and Eastern California. For those who have made this trip up I-15 and Highway 395 by car, few of the things you will see will be new to you. However, the perspective from 10,000 feet might be! So sit back, relax, and enjoy the flight!

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PRESIDENTS CORNER, MAY/JUNE 2008

Join us May 21<sup>st</sup> at Marina Village for an aerial adventure led by our SDAG treasurer **Chuck Houser**, who will present his own aerial photographs of geomorphologic features of the Peninsular Ranges and the eastern Sierra.

We'll also honor our Greater San Diego Science and Engineering Fair SDAG award recipients, **Austin Taylor** and **Ronit Abramson**. Austin is an 8<sup>th</sup> grader at Mt. Helix Academy, who presented his project "**Discovering the Velocity of Seismic Earthquake P-Waves**". Ronit Abramson, an 11<sup>th</sup> grader at Canyon Crest Academy presented "**Further Investigations of Epilithic Diatoms as Biological Indicators of Pharmac**". Congratulations also go to Austin and Ronit's advisors, **Wendy Slijk** and **Suneeta Cohen**. I've also heard that our own **Monte Marshall** has been a mentor to Austin.

It's been a busy month for One Stop Wonders! Special thanks to **Pat Abbott** for sharing his insights about the Eocene Ballena gravels atop Whale Mountain near Ramona and to **George Copenhaver** for showing us how to pan for gold (see pictures below) on Saturday April 26th. We had a great turn out (20+ people) thanks to our OSW coordinators Mike Hart and Dave Bloom. **Greg Cranham** coordinated another successful OSW led by SDSU professors **Tom Rockwell** and **Gary Girty** to examine the geologic setting of the fault and shear zone at the San Vicente Dam (see the report by Greg Cranham in this newsletter). We welcome all of your suggestions for future One Stop Wonders.

For our **June** meeting (which will be held on **June 11<sup>th</sup>, the 2<sup>nd</sup> rather than the 3<sup>rd</sup>** Wednesday of June), we'll co-host a Joint meeting with South Coast Geological Society at El Adobe Restaurant in San Juan Capistrano. The speaker will be **Jeffrey R. Keaton of MACTEC**, who will present a "**Demonstration of Virtual Structural Mapping with Close-Range Terrestrial Photogrammetry**".

Also mark your calendars for **THURSDAY** July 17<sup>th</sup>, when the national president of AEG (and former member of SDAG) **Dorian E. Kuper**, will present "**Highwalls to Highways - Engineering Geology Case Studies of Aggregate Mining and Reclamation**".

--Sarah

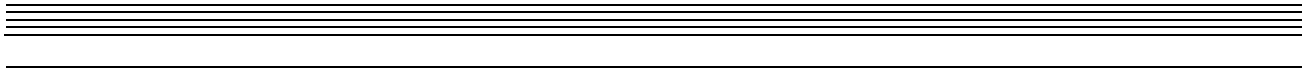


(**George Copenhaver** pans for gold and **Dr. Pat Abbott** shows SDAG members deposits of the Eocene Ballena gravels during our April 26<sup>th</sup> One Stop Wonder)



### ***ONE STOP WONDER, SAN VICENTE DAM***

On Saturday, May 10, 2008, 25 SDAG members and guests gathered at San Vicente Dam in Lakeside (actually nearer the former settlement of Foster) to examine an apparent shear zone near the left abutment of the dam. Professors Tom Rockwell and Gary Girty of San Diego State presented the results of their research to the group, presiding over a lively discussion of the shear zone, and its implications for regional and local geologic history and structure. We would like to thank Dr. Rockwell and Dr. Girty for their time and effort to bring us a fascinating presentation in the field. Thanks also to Mr. Steve Jacobs for describing ongoing subsurface geologic work in the tunnel that will connect San Vicente with the pumping facility at Mercy Road. This OSW trip would not have been possible without the time and support of the City of San Diego Water Operations Division, particularly Mr. Brian Ikeda. Following the trip, a few dedicated geologists gathered at Greg Cranham's Lakeside residence for a barbecue lunch. A final word of thanks to Mr. John Teasley, who gathered last-minute provisions for the very pleasant afternoon of beer and BBQ. Thanks to all for attending and participating – we're already looking forward to the next One Stop Wonder!



**Wednesday, June 11, 2008**

***DEMONSTRATION OF VIRTUAL STRUCTURAL MAPPING WITH  
CLOSE-RANGE TERRESTRIAL PHOTOGRAMMETRY***

*Presented by*

**Jeffrey R. Keaton, MACTEC**

**NOTE: details on meals, pricing and registration will be posted on the SDAG website and the South Coast Geological Society website ([southcoastgeo.org](http://southcoastgeo.org)) in the near future.**

**Where:** El Adobe Restaurant  
31891 Camino Capistrano  
San Juan Capistrano, CA

**When:** 6:00 pm – Social Hour  
7:00 pm – Dinner  
8:00 pm – Program

**Directions:** DRIVE about 66 miles from San Diego.  
**INTERSTATE 5 NORTH**, take Exit 81 toward CAMINO CAPISTRANO. Turn LEFT at VALLE ROAD; Turn LEFT at SAN JUAN CREEK ROAD; turn RIGHT AT CAMINO CAPISTRANO, to 31891 CAMINO CAPISTRANO.

**SPEAKER BIO**

*Jeffrey R. Keaton, PhD, PE, PG, F.ASCE, is a Senior Principal Engineering Geologist in the Los Angeles office of MACTEC Engineering and Consulting, Inc. His education consists of a BS degree in Geological Engineering from the University of Arizona (1971), a MS degree in Engineering (Geotechnical) from the University of California, Los Angeles (1972), and a PhD degree in Geology from Texas A&M University (1988). He is registered as a Professional Engineer in California, Utah, Alaska, and Arizona. He is also registered as a Professional Geologist in California, Arizona, and Utah, and certified as an Engineering Geologist in California and Washington. Prior to joining MACTEC in 2005, he was employed at Dames & Moore, Sergent, Hauskins & Beckwith (which became AGRA Earth & Environmental, and then AMEC Earth & Environmental).*

*Mr. Keaton served as Chairman of the Utah Section of the Association of Engineering Geologists (AEG) in 1980-1982 and was the President of AEG in 1992-1993. He was Chairman of the Engineering Geology Division of the Geological Society of America in 1989-1990 and has served on many professional committees: TRB Task Force A2T61, which produced TRB Special Report 247 Landslides: Investigation and Mitigation in 1996; He was principal author of Chapter 9, Surface Observation and Geologic Mapping, and Chapter 16, Important Considerations in Slope Design. He was selected for the 1999 Professional Fellowship in Earthquake Engineering by the Earthquake Engineering Research Institute and Federal Emergency Management Agency for his proposed research on synthetic ground motions from normal-faulting earthquakes.*

*Mr. Keaton specializes in quantifying hazardous natural processes for use in design and risk analysis. He has written numerous articles regarding engineering geology mapping, applied geomorphology, debris flows, landslides, collapsible soils, subsidence, fault rupture, earthquake-induced liquefaction, earthquake ground motion, and case histories.*

## **ABSTRACT**

Digital photography and computer technology allow the principles of photogrammetry to be used to construct 3D models suitable for measuring rock structure as well as point positions, lengths and areas. Three systems were developed independently at approximately the same time; the presentation demonstrates the one developed by 3G Software & Measurement in Graz, Austria. The other two systems are from Australia (CSIRO Sirovision and Adam Technologies).

A pair of photos taken with a handheld, calibrated camera is resolved into a 3D model by software which matches groups of pixels from each photo with digital image analysis. A range pole is placed in a position visible in both photos, but not obstructing the area of interest. The software uses targets on the range pole to fix the dimensions of each pixel which allows accurate measurements to be made. The azimuth of a line between two points can be used to orient the model to north; surveyed monuments can be used for this purpose, too. Tools in the software allow the geologist to make virtual measurements of rock structure (dip direction and dip magnitude) using points, lines, and polygons. Rock structure data determined with the line tool can be used to calculate joint spacing and other statistical parameters. Groups of rock structure measurements can be plotted in conventional lower-hemisphere equal area (Lambert) or equal angle (stereographic) projections using poles of planes. Statistical parameters associated with the rock structure groups are summarized with the pole plot. Positions of points on the surface (x,y,z) can be exported as ASCII or Autocad files. Rock structure data can be exported in a similar fashion, but independent from the surface points.

The time required to set up range poles and capture the images is on the order of 10 minutes. The time required to produce a 3D model is less than a half hour. The rock structure measurements are made individually by hand rather than by an automated process. The point cloud of the model surface can be exported for use with other software (GIS or rock structure, such as Split-FX). Rock structure data can be exported for use with rock slope stability software, such as RockPack III.

The ShapeMetriX3D system can be used for non-rock structure applications, such as making 3D models of stereoscopic aerial photographs and 'digital sieving' of coarse fragments. Free viewing software allows models and structural measurements made with the system to be viewed. Demo software can be downloaded from the 3G Software & Measurement website at [www.3gsm.at](http://www.3gsm.at).

## **ANNOUNCEMENTS**

### **Rocks with Provenance Needed for a Reference Collection for Typing and Sourcing San Diego Co. Artifacts**

The San Diego Archaeological Center and local archaeologists need a county-wide reference collection of local rocks from outcrops. The collection will be an important resource for archaeologists involved in typing and sourcing stone artifacts from the San Diego area.

Norrie Robbins, adjunct faculty in the Dept. of Geological Sciences at SDSU, is spearheading this volunteer effort. She notes that geologists use a much wider variety of descriptors for rocks than do archaeologists. One of the objectives of this project is to cross-reference archaeological categories with geological ones to help develop a mutually understandable terminology and to improve sourcing. Rock specimens in the reference collection will be identified by spatial coordinates and both geological and archaeological descriptors.

Please contact Norrie ([nrobbins@geology.sdsu.edu](mailto:nrobbins@geology.sdsu.edu), 619-303-9095) with any questions and to arrange pick up of specimens. Specimens may also be placed in her mailbox at SDSU or dropped off at the Center (please indicate Attention: Rebecca Nathan). In addition, Dr. Robbins or Dr. Tim Gross will be available at most meetings of the San Diego County Archaeological Society (SDCAS) and San Diego Association of

Geologists (SDAG) to accept specimens. Building the reference collection is a long-term project. There is no time limit for making your contributions.

## John Shelton Exhibit at the SD Natural History Museum—May 11 to November 2, 2008

The photography exhibition, a retrospective of Shelton's work, marks the first time works by the legendary geologist will be exhibited to the public. A geologist filled with a love for music and machines, John Shelton is best known for his pioneering aerial photography. Formerly an associate professor of geology at Pomona College, he has always been intensely interested in the process of learning. Shelton's love and knowledge of flying enabled him to reveal geologic features and processes through his aerial photographs of wondrous landscapes. His aerial photographs of North America are especially invaluable today, when diminishing air quality makes some of his shots irreplaceable.

### 2008 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 2009!**

<a href="#">Dr. Richard Berry</a>	<a href="#">Geocon</a> , Inc.
<a href="#">H&amp;P Mobile Geochemistry</a>	<a href="#">Dr. Sarah Gray - University of San Diego</a>
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Joe Coronas, <a href="#">City of San Diego</a>	Lowell Lindsay, <a href="#">Sunbelt Publications</a>
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Pacific Drilling Co.	
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<a href="#">Pat Brooks</a>	
<a href="#">Mike Palmer</a>	<a href="#">Hargis and Associates, Inc.</a>

### JOB OPENINGS!

#### PART-TIME GEOLOGY/EARTH SCIENCE INSTRUCTORS, PALOMAR COLLEGE

Beginning with the Spring, 2009 semester, the Earth, Space & Aviation Sciences Department at **Palomar College** will have several openings for part-time instructors in Physical Geology, Historical Geology and

Introductory Earth Sciences. Most of the course offerings will be in the evenings or late afternoons or on Fridays.

Applicants should have a Master's Degree in Geology or a closely related field. Persons who are nearing completion of their Master's Degrees are also encouraged to apply. We are particularly interested in applicants who are strongly field-oriented and are willing to develop and lead single- and multi-day field trips throughout southern California and the Southwest.

Please forward a letter of interest with a brief description of your background, experience and teaching interests to:

Steve Spear  
Geology Program  
Department of Earth, Space & Aviation Sciences  
Palomar College  
1140 W. Mission Road  
San Marcos, CA 92069  
[sspear@palomar.edu](mailto:sspear@palomar.edu)  
(760) 744-1150, ext. 2513

**Layne GeoSciences**, a division of *Layne Christensen Company*, the nation's largest groundwater resource development contractor, is seeking candidates for a *Senior Level Hydrogeologist* position. This position will be based in our Fontana, CA facility. Qualified candidates will possess:

- BS/MS in Geology, Hydrogeology, or Engineering Geology with emphasis on groundwater resources
- Minimum 8-10 years of experience in performing hydrogeological studies (e.g., groundwater exploration and/or water resource development, production well installation and design, wellfield design, surface and borehole (geophysics))
- Excellent written and verbal communication skills, good computer skills

The successful candidate will be involved in hydrogeological studies at project locations primarily in the southwestern US. Candidate may have periodic travel requirements and must be a motivated, self-starting individual looking for a challenging, key position in an expanding organization.

Qualified candidates are encouraged to send a resume to: *Layne GeoSciences* ATTN: Mr. Tony Morgan *Manager-West Coast Operations* 11001 Etiwanda Avenue Fontana, CA 92337, 909-390-2833 909-390-6097 FAX

Resumes should be submitted by email to [tmorgan@laynechristensen.com](mailto:tmorgan@laynechristensen.com).

We are a drug-free and smoke-free workplace. EOE/M/F/D/V

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## Geologist/Hydrogeologist II - Brown and Caldwell

Evaluate, select, and apply standard geological techniques, procedures, and criteria to make adaptations and modifications. Work on assignments with clear and specified objectives. Investigate limited number of variables. Direct field crews drilling bore holes and collect samples of rocks and soil for chemical analysis.

**Qualifications:** MS degree or BS degree and 2-3 years of professional geological or hydrogeological experience.

**Contact Candy Engelstad**, HR/Administrative Manager, Brown and Caldwell, [cengelstad@brwncald.com](mailto:cengelstad@brwncald.com)

Tel: (858) 514-8822 Fax: (858) 514-8833

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**URS Corporation**, ranked number one on Engineering News-Record's list of the Top 500 Design Firms for Seventh consecutive year is a leading provider of planning, design, systems engineering and integration, technology development, program and construction management, and operations and maintenance services to federal, state and local government agencies in the U.S., Fortune 500 corporations worldwide and government clients in Europe and Asia/Pacific. We're currently looking for a Geologist in our San Diego, CA office.

### URS18093 – Geologist

Responsibilities: Assist Project Manager in conducting Phase I and Phase II Site Assessments and oversight of remedial programs. Ability to successfully complete the following:

Manage small projects from start to finish with limited supervision, familiar with a variety of invasive drilling/subsurface investigation techniques, log borings in accordance with USCS, install monitoring wells in accordance with DEH guidelines, provide fieldwork oversight of subcontractors, prepare work plans, familiar with laboratory analyses and waste characterization criteria, familiar with human health screening criteria, interpretation of geologic and chemical data for surface water, soil, soil gas and groundwater and to assist with preparation of reports summarizing field procedures and results.



Requirements: Minimum Bachelors Degree with 2+ years of experience in the environmental consulting industry or related business. Good written and verbal communication skills, able to work independently and familiar with local regulatory guidelines (DEH, RWQCB, DTSC). Valid drivers license is required due to some travel to/from sites as needed.

URS Corporation is an Equal Opportunity Employer and strongly supports diversity in our workforce. M/F/V/D. We offer competitive salaries and a comprehensive benefits package. For immediate consideration please submit your resume online at [www.urscorp.com](http://www.urscorp.com) and refer to **Requisition # URS18093** or send your resume to [mike\\_blackmore@urscorp.com](mailto:mike_blackmore@urscorp.com)

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**Tetra Tech EC**, a world leader in environmental engineering and consulting, is seeking an **Entry Level Geologist in our San Diego, CA office.**

The qualified candidate will have a Bachelor of Science degree in Geology, hydrogeology, or related field with 0-3 years experience. Primary responsibility will be to assist senior personnel in the planning and execution of projects. The chosen candidate will learn a variety of field sampling and drilling methods for site investigation and remediation projects and perform the acquisition of samples (soil and groundwater) in the field. Good analytical and writing skills required. Up to 50% of time may be in the field on project sites mostly in the Bay area.

Tetra Tech EC, Inc. is an Equal Opportunity Employer and we value team-oriented workplace and workforce diversity. We invite resumes from all interested parties including women, minorities, veterans and persons with disabilities. Tetra Tech offers their employees a comprehensive compensation package and the opportunity to work on large scale government projects.

Candidates who are interested in joining our dynamic team should submit a resume to Tetra Tech EC at [northwest.web@tteci.com](mailto:northwest.web@tteci.com). Resumes should include salary requirements. Please visit our website at [www.tteci.com](http://www.tteci.com) or [www.tetratech.com](http://www.tetratech.com) to see the array of services that we provide and exciting projects we are currently working on.

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**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.

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**CDM** is looking for a fulltime **Engineering Geologist** to join its geotechnical division in the West Coast. The successful candidate will be responsible for the following:

- Conduct geologic field investigations on a wide range of public and private projects involving seismic evaluations, landslides, and subsurface soil, rock and water conditions for dams, buildings, water and waste water treatment facilities, transportation projects and remedial actions.
- Perform and supervise geotechnical and geo-environmental analysis, design, and construction engineering services.
- Provide project management for geotechnical and geo-environmental projects including the preparation of scope, schedules and budgets.
- Contribute to business development and proposal efforts and prepare technical reports.

- **Requirements:** Demonstrate the ability to perform quality-engineering geology services while adhering to project scope, budget, and schedule.
- Must have at least 10 years experience in geological engineering.
- M.S. in engineering geology or related discipline required
- Must be a CA Certified Engineering Geologist (CEG)
- Major project experience involving seismic and fault investigation is a must.
- OSHA 40-hour HAZWOPER training desirable.
- Excellent written and verbal communication skills required.

CDM has consistently earned industry recognition for our innovative project solutions. Recognition by respected professional organizations, such as the American Academy of Environmental Engineers, the American Council of Engineering Companies, and the Design-Build Institute of America, is a testament to CDM's delivery of exceptional service and the right total solutions for each client's needs. We are an equal opportunity employer. Qualified candidates can send resumes to [mcshefferylj@cdm.com](mailto:mcshefferylj@cdm.com).

### Principal Hydrogeologist

Looking to make a real impact at work? Ready to "Never be bored"? Natural born leader? Work for an industry leader.....Join MACTEC.

**MACTEC Engineering and Consulting, Inc.** is a leading consulting firm providing engineering, environmental and remedial construction services to public and private clients worldwide. Operating with over 3,000 employees in 100 offices nationwide with a global reach, MACTEC is currently ranked 31st among *Engineering News-Record's* top 500 design firms.

**MACTEC's** Irvine office is in search of a **Principal Hydrogeologist** to lead the geological and hydrogeological efforts, manage a team of committed technical staff members and advance business development opportunities within a variety of clients and projects. This is an excellent opportunity for the "natural born leader" who wants to utilize their technical and leadership skills!

#### Scope of Role:

1. Provides hydrogeological guidance and support for soil and groundwater remediation.
2. Develops and presents new approaches and services within environmental consulting market
3. Assumes project management roles and leads site investigation efforts
4. Conducts fate and transport modeling, pump tests and capture zone analysis
5. Develops site specific hydrogeological model.
6. Prepares and deliver technical reports, communications and presentations.

#### Key Qualifications:

1. BS/MS/PhD (Geology/Hydrogeology)
2. Min 10 years experience, must have consulting experience as well
3. Must have groundwater modeling experience, CA certification preferred
4. PG, CHG registration in CA required
5. Excellent communication and leadership skills

**MACTEC's benefit offerings include health, dental, vision, short and long term disability, life insurance, paid vacation, sick, holidays, a 401(k) match and tuition reimbursement. More information can be found on our website at [www.MACTEC.com](http://www.MACTEC.com)**

#### Interested?

Please apply today via our website: [www.MACTEC.com/](http://www.MACTEC.com/) - click on Careers / CA- Irvine

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](http://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 office. We are currently looking to fill the following positions:

**CAD Technician:** Ideal candidate is a highly qualified professional for preparation of engineering and geologic graphics. Position requires experience in *AutoCAD* and with engineering process design. Experience with *Civil 3D*, *Land Development Desktop*, *Autoplant*, and *Arctview* a plus.

**Staff Engineer:** Candidate would have a B.S. Degree in Chemical, Civil, or Mechanical Engineering and 3 to 5 years relevant experience including design, operation, and maintenance of remediation systems. Masters degree and registration is a plus. Candidate should possess strong writing and presentation skills. Position will be based in San Diego, California, and will require some travel and field work. Valid driver's license and U.S. Citizenship required. 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.

**Staff Hydrogeologist:** Position requires minimum a B.S. Degree in Geology, and 3 to 5 years relevant experience, including experience with soils and groundwater sampling, well installation, work plan and report preparation, task management, cost estimating and scheduling. Candidate should possess strong organizational, writing and presentation skills. California Professional Geologist (PG), or ability to obtain within two years, groundwater modeling experience, and Masters degree is a plus. Position will be based in San Diego, and will require some travel and field work. Valid driver's license and U.S. Citizenship required. OSHA 40-hour training required.

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No phone calls please. Qualified candidates should send resumes, along with a cover letter summarizing experience and salary requirements to:

Hargis + Associates, Inc.  
Attention: Jennifer Layton  
2365 Northside Drive, Suite C-100  
San Diego, CA 92108

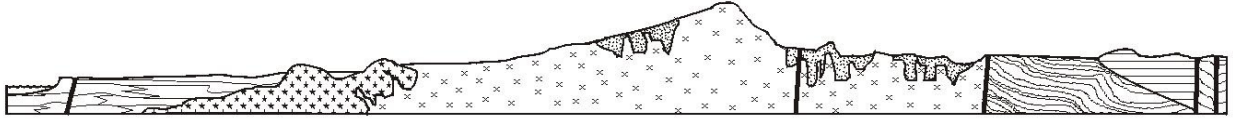
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**The San Diego Natural History Museum** is run and operated by the San Diego Society of Natural History, a private non-profit scientific organization incorporated in 1874. The Museum's mission is to interpret the natural world through research, education and exhibits; to promote understanding of the evolution and diversity of Southern California and the peninsula of Baja California; and to inspire in all a respect for nature and the environment.

Within the Museum, the Department of PaleoServices (DPS) specializes in paleontological resource management. Our focus is on the recognition, recovery, and preservation of the significant and unique paleontological resources that occur in this region. The activities of DPS are helping to preserve significant fossil assemblages and are directly contributing to the growth of the important paleontological research collections at the Museum. We are currently looking to fill the following position:

**Paleontological Field Manager:** Position responsibilities include coordination of paleontological field activities (i.e., supervision of field monitors in prospecting for and collection of fossils and the recording of stratigraphic, taphonomic, geographic, and topographic data) and production of final project reports that summarize the methods and preliminary results of paleontological salvage activities. Other duties include generation of initial discovery letter reports for City, County, and/or State agency managers and generation of paleontological resource assessment technical reports. Opportunities also include paleontological field work in the Southern California region and working with the extensive fossil collections of the San Diego Natural History Museum.

Qualified candidates must have at least a B.S. Degree in Geology or Paleobiology; 2 to 3 years of relevant experience (especially sedimentary geology and paleontology); excellent supervisory/managerial, verbal, written, and interpersonal skills; and a strong work ethic, intense drive, and initiative for quality and customer service. This position is a regular, full-time salaried position with a generous benefits package (e.g., full medical and 401K plan). Compensation will be based on individual qualifications and experience (annual salary range \$40,000 to \$60,000).



# SAN DIEGO ASSOCIATION OF GEOLOGISTS

[www.sandiegoeologists.org](http://www.sandiegoeologists.org)

## 2008 MEMBERSHIP FORM

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