

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

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

## SDAG MEETING ANNOUNCEMENT

**Wednesday, April 16, 2008**

### *CLEAR WATER SECRETS: A MICROSCOPIC DISCOVERY IN THE CAVE FORMATION STORY*

*presented by*

**Dr. Stephanie Schwabe, University of San Diego**

**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.

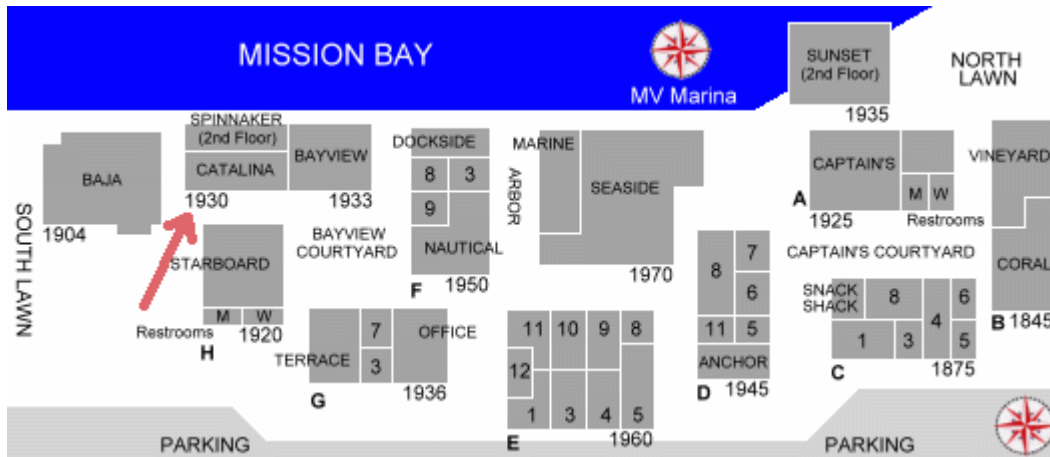
FROM INTERSTATE 8: Take the WEST MISSION BAY DRIVE exit to the right. You will be on INGRAHAM STREET for a short distance from which you will take the next exit marked WEST MISSION BAY DRIVE on your right. When you see the large green sign that says QUIVIRA ROAD, get in the farthest left of the two left 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:**

Texas Barbecue:  
Barbecued Baby Back Pork Ribs  
Charbroiled All-Beef or Veggie Hamburgers  
Ceasar Salad  
Corn on the Cob  
Italian Pasta Salad  
Dessert

Cost: \$30; \$15 Students; \$5 discount for current SDAG Members

**Reservations:** Make your reservation **online** at [www.sandiegoeologists.org](http://www.sandiegoeologists.org) **no later than noon, Monday, April 14th**



## 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!

May 21st	Chuck Houser
June 11th	Joint mtg 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

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*Steffi Schwabe and samples after a dive in a Bahamian Blue Hole*

## **SPEAKER BIO**

Stephanie Jutta Schwabe, Steffi to her friends, received her B.A. in Geology from the College of Charleston in 1990, her MSc from Mississippi State University in 1992, her Ph.D. in Biogeochemistry from the University of Bristol, UK in 1999, a degree supported by a full scholarship. She also earned a J.D. with focus in International Environmental Law from the University of Queensland, Australia in 2003. She was admitted to the Queensland Bar, both as a Barrister and mediator the same year. A native of Charleston South Carolina, Dr. Schwabe has been diving for over 25 years in the Bahamas, and is the founder and director of the Rob Palmer Blue Holes Foundation, so renamed following her husband's death in 1997 in a diving accident. She became a celebrity in the dangerous world of cave diving, fought powerful interests to protect the "blue holes" of the Bahamas and as a result her adventurous stories were included in a book titled, "Women of Discovery: A Celebration of Intrepid Women Who Explored the World. She is currently in the editing stages of her own book titled: Living in Darkness: A Women's exploratory adventures into the Black and Blue Holes of the Bahamas. Her work and adventures have been recorded by Discovery, Discovery Animal Planet, German and French National Television, World of Wonder and by an Australian Production, Beyond Production.

## **ABSTRACT**

The currently accepted hypothesis for the development of caves in carbonate islands and coastal areas suggest that mixing of  $\text{CaCO}_3$  supersaturated sea water with  $\text{CaCO}_3$  saturated groundwater creates under-saturated mixed water that is theorized to be responsible for large-scale carbonate dissolution. This hypothesis does not address the dissolitional potential of rainwater migrating through the vadose zone, or the ground water. It is known that soon after rainwater has moved through the soil and made contact with the underlying limestone it becomes buffered by dissolution of  $\text{CaCO}_3$ . We hypothesize that the dissolution capacity of the vadose water is primarily controlled by the assimilation of  $\text{CO}_2$  produced by heterotrophic bacteria living in the pores of the host rock.

Rainwater collected before it made contact with the ground on San Salvador Island, Bahamas contained  $10^3$  bacterial cells per milliliter. In contrast, water collected from dripstones in caves contained  $>10^4$  to  $10^5$  colony-forming-units (cfu). Wall rocks collected from dry caves on San Salvador Island, Bahamas, contained  $>10^6$  cfu, with the dominant heterotrophic bacteria identified as Actinomycetales, which are known to produce  $\text{CO}_2$  and  $\text{NH}_3$  as end-products of their metabolism. Discovery of the microbial populations, which comprise at least 16 different species, within the rock samples provides not only a significant potential for the production of  $\text{CO}_2$ , but for other microbially generated acids. Further, surface and 2.5-cm-deep wall-rock samples sealed in sterile vials for 14 days yielded a  $\text{CO}_2$  content that ranged from 770 to 410 ppm above the current atmospheric concentration (~380 ppm).

Our observations suggest that bacteria are maintaining and driving the  $\text{CO}_2$ -related dissolution in the vadose and phreatic zones. It is also likely that secondary porosity and permeability may be enhanced even during periods when the rock is not saturated with water.

Limestone in the phreatic zone, especially where they are exposed to the mobile mixing-zone water, experience the greatest removal of solutes, and the greatest concentrations of bacteria. As a result, it is reasonable to suppose that void enlargement reaches the highest rates in association with those environments. Hence, caves develop and enlarge to their greatest extent at or near sea level. This can also explain why caves, which experienced only relatively short episodes of phreatic conditions can be so large.

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## **ANNOUNCEMENTS**

Presidents Corner, April 2008

Happy Spring. This month we welcome you to join us for a Texas BBQ at Marina Village with Dr. Stephanie Schwabe from USD, who will speak about her exciting new ideas about the role of microbes in cave formation in Bahamian blue and black holes. If you wondered what it was like to dive into a black hole, come see some of her awesome underwater video footage.

On Sunday April 13<sup>th</sup>, John Warne of the Colorado School of Mines will be leading a field trip along the sea-cliffs at Torrey Pines. If you are interested, contact Jared Marrow at SDSU ([jmorrow@geology.sdsu.edu](mailto:jmorrow@geology.sdsu.edu) or [jmorrow@sciences.sdsu.edu](mailto:jmorrow@sciences.sdsu.edu)).

Watch for details of May's meeting at the Model Train Museum in Balboa Park, with a presentation by our own Chuck Houser.

Sarah

### **ONE STOP WONDER, The Amazing Geologic History of the Eocene Ballena Gravels**

**Saturday, April 26<sup>th</sup>**, Pat Abbott, Prof. Emeritus, San Diego State University will be leading the One Stop Wonder. Trip participants will meet at 9AM in the parking lot of the Sizzler Restaurant on the south side of Hwy 78 on the east side of town in Ramona. From there we will caravan to Whale Mountain between Santa Ysabel and Ramona to a private ranch located opposite the large egg ranch near Santa Teresa Valley. The trip will conclude before noon, with an option of joining the group for lunch. Thanks to Mike Hart and Dave Bloom for organizing the logistics.

Trip participants will meet at 9AM in the parking lot of the Sizzler Restaurant on the south side of Hwy 78 on the east side of town in Ramona. From there we will caravan to Whale Mountain between Santa Ysabel and Ramona to a private ranch located opposite the large egg ranch near Santa Teresa Valley. The trip will conclude before noon and those that would like can get together for lunch at the sizzler in Ramona or head on into Santa Ysabel for lunch there.

The provenance of the Poway Conglomerate is one of the most interesting geologic stories in California. The Poway Conglomerate was delivered to the San Diego coastal plain by a large river whose remains are the Ballena Gravels. As in the Sierra Nevada, the Eocene rivers carried gold. Near Whale Mountain the gold was mined in the late 1800s and early 1900s; the gold placers produced only small amounts of gold compared to the mines of Julian to the east, partly because of the lack of water. The distinctive red rhyolitic clasts of the Poway Conglomerate began their journey to the Pacific Coast in latest Paleocene via a large river system that originated in Laramide-rejuvenated Jurassic volcanic mountains that now lie in Sonora, Mexico. Opening of the Gulf of California carried the Eocene gravels away from their source rocks in Sonora, Mexico. Remnants of the river channel in the east county are now visible as the Ballena Gravels that occupy the crests of several ridges and peaks south and east of Ramona and represent classic inversion of relief where a onetime valley floor now occupies a sinuous ridge. Dr Abbott will discuss the origin and history of the area from one of the most easterly outcrops of the old river system.

The field trip will involve a short but strenuous ½ (+/-) mile hike up Whale Mtn (elev. change 300 to 400 feet). We are currently checking out a possible alternate route that would allow us to drive to the top of the mountain on an unpaved road. Kids are welcome. Wear typical field clothes with boots, sunscreen, water (you are geologists, you know what to bring!). Remember it is snake season.

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## **SDSU GEOLOGY ALUMNI ASSOCIATION FIELD TRIP**

This year's SDSU Geology Alumni Association's field trip/campout will be held during the weekend of **April 11-13 2008**. Camp will be in the southern Salton Sea area. Possible field trip visits include Obsidian Butte, mud volcanoes, mud pots, the Imperial and San Andreas faults, ancient shorelines of Lake Cahuilla, and spectacular desert wildflower displays! More info to follow - just save the date and come play! Everyone is welcome!

**From the Coast Geological Society: 2008 Desert Symposium Field Trip: April 19-21, 2008, "Development of the Colorado River and its entry into the Salton Trough."** The field trip will explore geographic extent of the Bouse Formation and contrast fresh water deposits with deposits containing marine fossils. Examine sediments at Anza-Borrego that indicate when the Colorado River entered the Salton Trough. Drive from eastern Mojave Desert pinon-juniper plateaus to the Sonoran vegetation of the Colorado Desert. Contact [wpresch@fullerton.edu](mailto:wpresch@fullerton.edu) more information.

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## **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.

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## **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!***

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Jan and Dave Steller	
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## JOB OPENINGS!

### PART-TIME GEOLOGY/EARTH SCIENCE INSTRUCTORS

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**, a nationwide, multidisciplinary consulting firm and the largest design firm in the country, has a strong project backlog in San Diego County in the transportation and water resources markets. We are seeking qualified candidates for the following positions for our San Diego office:

**Engineering Geologist** (Requisition #URS16201): Geologist/Engineering Geologist with 0 to 5 years of experience in consulting engineering firm; preferably with master's degree. Responsible for supervising field explorations, geologic mapping, and report preparation. Should be experienced in logging borings in soil and rock, knowledge of Caltrans investigation procedures a plus.

**Geotechnical Engineer** (Requisition #URS24208): Civil/Geotechnical Engineer with 0 to 5 years of experience in consulting engineering firm; preferably with master's degree. Responsible for planning field and laboratory programs, engineering analyses, and report preparation. Strong analytical skills and communication skills a must. URS is an Equal Opportunity Employer and strongly supports diversity in our work force (M/F/V/D). We offer competitive salaries and a comprehensive benefits package. For immediate consideration, please submit to [mike\\_blackmore@urscorp.com](mailto:mike_blackmore@urscorp.com) or apply on-line under the Careers section of our website ([www.urscorp.com](http://www.urscorp.com)) using the requisition number shown in parentheses above.

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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

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@ttech.com](mailto:northwest.web@ttech.com). Resumes should include salary requirements. Please visit our website at [www.ttech.com](http://www.ttech.com) or [www.tetrattech.com](http://www.tetrattech.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).

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### **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

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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

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**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 *Arcview* 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.

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](http://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: 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).

Please send resumes to Yvonne Kugies ([ykugies@sdnhm.org](mailto:ykugies@sdnhm.org))

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## **GEOLOGISTS WANTED** for Uranium Exploration & Development Projects

**Ur-Energy USA, Inc** is a rapidly growing uranium exploration and development company with offices in Littleton, Colorado and Casper, Wyoming. We are currently seeking six field-oriented graduate geologists to fill permanent and summer positions. Applicants should have US citizenship or permanent residency. For additional information about the company, visit [www.ur-energy.com](http://www.ur-energy.com). Brief descriptions for open positions follow:

**Two Permanent Project Geologist Positions.** Assignment location could be in our Casper, Wyoming office or in any other domestic location where Ur-Energy is active. The positions call for field-experienced geologists who will have the independent responsibility of developing and overseeing activities for exploration projects that might occur in any geologic environment.

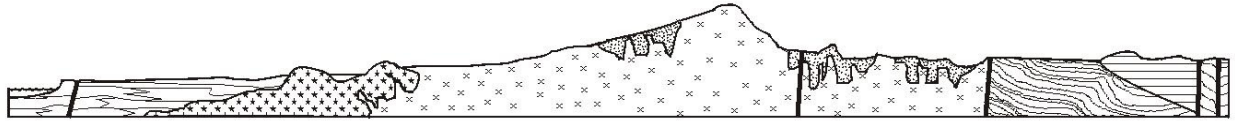
**One Permanent Field Geologist Position.** This position will be under the supervision of a Project Geologist and will involve field activities associated with the development of an In Situ Recovery project in Wyoming.

**Three Summer Geologist Positions.** We currently have two summer field positions open in our Casper, Wyoming office and one summer position open in our Littleton, Colorado office. For all three positions, we are looking for BS graduates who are planning to go on to or are currently involved with graduate studies, and who will be available from the end of the spring semester to the beginning of the fall semester.

Please contact one of the following individuals for detailed information:

Cal VanHolland  
Exploration Manager, Wyoming  
5880 Enterprise Drive, Suite 200  
Casper, WY 82609  
307-265-2373  
[cal.vanholland@ur-energyusa.com](mailto:cal.vanholland@ur-energyusa.com)

or Hank Johnson  
Corporate Development Manager  
10758 W. Centennial Rd, Suite 200  
Littleton, CO 80127  
1-866-981-4588  
[hank.johnson@ur-energyusa.com](mailto:hank.johnson@ur-energyusa.com)



# SAN DIEGO ASSOCIATION OF GEOLOGISTS

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

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Please type or print clearly, and check your chosen delivery address below.

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*Please include company or other affiliation*

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**E-mail Address:** \_\_\_\_\_

**Website:** \_\_\_\_\_

**Field(s) of Interest:** \_\_\_\_\_

**Phone:** Home: (\_\_\_\_) \_\_\_\_\_ Work: (\_\_\_\_) \_\_\_\_\_ Cell: (\_\_\_\_) \_\_\_\_\_

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	_____ <b>Subscription to hardcopy newsletter</b>	<b>\$ 10.00</b>
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San Diego, CA 92108**

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