

### October Section Meeting: Subsurface Laser Drilling Applications

Subsurface laser drilling was proposed by Dr. Richard Parker of Subsurface Laser Applications, Inc. and Dr. Lorne Everett of the Shaw Group, Inc. as early as the 1980s. The ability to drill holes through the earth, very accurately (in terms of direction); at speeds which are hundreds of times faster than currently available has enormous breakthrough potential. Exploration and development drilling for oil and gas, water, and minerals would be revolutionized not only in speed but safety and environmental protection. Environmental applications include placing stable holes in the best positions to accomplish subsurface interrogation, hazardous waste barrier cap evaluation, subsurface chemical analysis, and the potential interrogation and detonation of unexploded ordnances are some of the anticipated applications. The ability to rapidly evaluate building and bridge structures relative to earthquake evaluation and rehabilitation is enormous. Geotechnical applications such as long distance tunneling could be dramatically improved. Research has focused not only on specific energy requirements relative to rock types but also relative to the analysis of plasma and effluent for identification of minerals and contaminants. Creative approaches such as using the laser to form a ceramic-like sheath in unconsolidated sediments such as sand and gravel are particularly interesting. Tests have shown that power requirements are much less than previously calculated and are comparable or better than customary mechanical boring techniques. Specific energies related to the options of atomizing, creating

### October Section Meeting

- Topic:** Subsurface Laser Drilling Applications
- Speaker:** Dr. Richard Parker
- Date:** Tuesday, October 18th
- Time:** 6:00 Social Hour w/ cash bar  
7:00 Dinner  
8:00 Presentation
- Location:** Morrison Inn  
301 Bear Creek Ave., Morrison  
303-697-6650
- Menu:** Fajita Buffet
- Cost:** Members: \$20  
Non-Members: \$25  
Students & Unemployed: \$10

Please RSVP by **Friday, October 14<sup>th</sup>** (early RSVPs are greatly appreciated!). Indicate your name, phone number, and number of attendees by e-mailing Tom Wellborn at [rockyaiche@yahoo.com](mailto:rockyaiche@yahoo.com). Alternatively, you leave a voice mail for Tom at 303-933-0533.

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a molten form, or spalling the rock will be described. Protocols have already been established based on earlier funding to further develop an understanding of subsurface laser drilling.

Dr. Richard Parker has been in the energy industry for over 25 years. He has been involved in the exploration and development of oil and gas at all levels, from regional studies and basinwide evaluations to managing development teams. While a contract manager at Gas Research Institute, he solicited and received proposals for revolutionary drilling technologies that included the laser drilling idea. After GRI funding expired, Dr. Parker teamed with the principal investigator, Dr. Ramona Graves, to obtain DOE funding to continue the study. Dr. Parker received a BS in Geology from MIT and a PhD in Oceanography from Texas A&M University. He is a member of AAPG, SPE and Sigma Xi.

### NEW MEXICO CORNER

New Mexico members are getting active and organized. Kerri is searching for volunteers to speak/present an engineering topic, so please contact her if you know of anyone available in the Albuquerque area. For more information about the New Mexico meetings, contact Kerri Pratt at [PrattKL@cdm.com](mailto:PrattKL@cdm.com)

## JOB OPENING FOR A CONTROL SYSTEMS ANALYST

Highly skilled individual needed to provide technical expertise for regional wastewater treatment plant's process control/automation computer systems. Duties include project management and performing analysis, design, and programming for new and existing process control/network systems.

**Qualifications:** B.S. degree in electrical engineering or computer science, plus five years of experience in operation and programming of real-time process control systems. Must have knowledge of process control theory and process instrumentation; experience with distributed control systems, PLC systems, client/server programming, and data communications. Desired qualifications include: specific experience with Allen Bradley PLC systems, ABB MOD-Advant DCS systems and OSI PI data archiving systems a plus. Preferred candidate will have knowledge of wastewater treatment.

**Compensation/Benefits:** Hiring salary range: \$50,815 - \$69,888. Looking to hire at mid-range, allowing room for salary growth. Pay for Performance Program. Excellent comprehensive benefits package, including health, dental, life, and AD&D insurance; 100% employer-funded defined benefit retirement plan; optional deferred compensation program. Educational assistance, health & fitness program. Four 10-hour-day workweek available.

Send resume or apply to Metro Wastewater Reclamation District, 6450 York St., Denver, CO 80229; (Ph. 303-286-3000). See our website at [www.metrowastewater.com](http://www.metrowastewater.com) for details about our organization. \*NOTE - A drug screening, criminal background check and MVR will be part of the selection process. Metro District is a non-smoking facility. AN EQUAL OPPORTUNITY EMPLOYER.

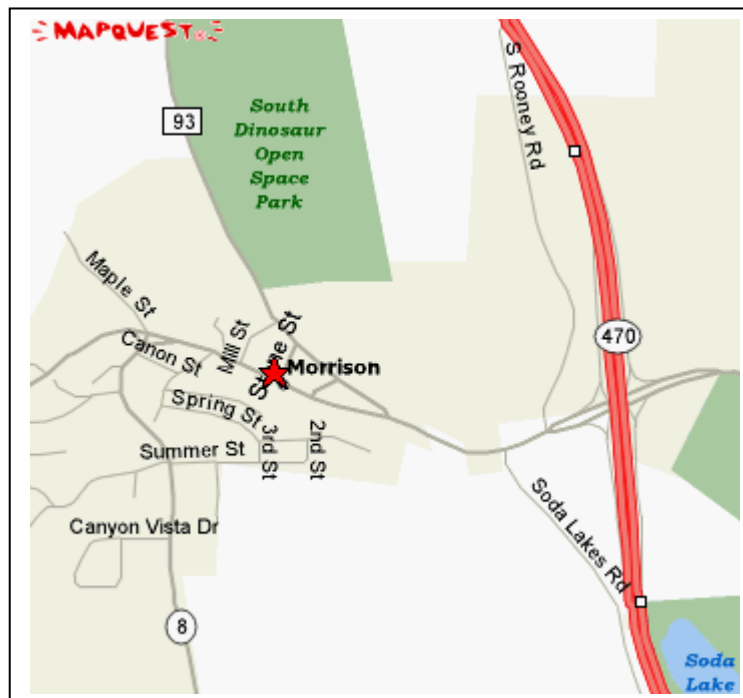


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**DIRECTIONS: From CO-470, take the CO-8 Morrison Rd Exit toward Red Rocks Park. Drive about half a mile west on CO-8 until you see the Morrison Inn on your left.**