



ASSOCIATION OF ENVIRONMENTAL AND ENGINEERING GEOLOGISTS

"Serving Professionals in Engineering, Environmental, and Ground-Water Geology"

THE ROCKY MOUNTAIN SECTION NEWSLETTER

www.aegrms.org

MEETING DATE

**THURSDAY
OCTOBER 13th, 2005**

TIME

5:45 p.m. Social Hour
6:30 p.m. Dinner
7:30 p.m. Presentation

LOCATION

**Berthoud Hall, Colorado
School of Mines
1516 Illinois St.
Golden, CO 80401
See map below**

COST

\$20 Members
\$22 Non-members
**Students, Free first time,
then \$10**

RESERVATIONS

c/o AEG Reservation Line
(303) 264-1030
meetings@aegrms.org
**BY NOON, TUESDAY
OCTOBER 11th**

The Manapouri Tailrace Tunnel No. 2 Construction - A Very Large TBM Tunnel in Very Strong Rock

Don Deere, Deere & Ault Consultants, Inc.
Longmont, Colorado

The Manapouri Tailrace Tunnel No. 2 (2MTT), located in southern New Zealand, was constructed between 1997 and 2002 as part of Meridian Energy, Ltd.'s 700 MW hydroelectric facility. The 10 km long tunnel is one of the World's largest full face TBM tunnels, at 10 m diameter, driven in strong to very strong rock.

Many obstacles were traversed by the contractor. The TBM passed through five major fault zones, 5 to 120 m wide with cumulative groundwater flows up to 1,000 l/s; however, the most difficult ground for the TBM was the hard, blocky ground.

This project pushed the envelope in hard rock TBM tunneling due to tunnel size, water inflows, the strength of rock, environmental considerations, and the isolated nature of the site. Construction difficulties and ensuring contractor claims resulted in exhaustive studies of rock properties and TBM behavior which now provide important insight into rock boreability.

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Words From the Chair

Welcome to the 2005-2006 season of RMS-AEG. What better way to start off the new season than to be returning from the Annual Meeting in Las Vegas. The glamour. The glitz. The bling-bling. Wow.

This meeting set some new records with over 530 people attending. Over 200 people attended the annual banquet and more than 100 attended the corporate luncheon. The Rocky Mountain section turned out in force with approximately 70 of our 237 members attending at least one day of the meeting and authoring or co-authoring thirty papers.

The biggest news of the meeting concerned the name change. Sixty-eight percent of the members voted in favor of the name change with 67% required to pass. So officially, we are now the "Association of Environmental and Engineering Geologists" although the acronym is still "AEG".

Members (or former members) of the RMS received awards or recognition at this meeting. Jessica P. Humble (now in the Southwestern Section) received the Douglas R. Piteau Outstanding Young Member Award. Deborah Green (New Mexico) received the Floyd T. Johnston Service Award. Jerry Higgins has been selected to be the 2005-2006 Jahns Lecturer. I hope to schedule him to speak to the section next spring.

We have a great line up of talks this season. In addition to those in Denver, I would like to arrange for a program in South Dakota this fall and one in Albuquerque in the spring. Details have not been made yet. If anyone is interested in going to (and possibly giving a talk at) one or both of these meetings, let me know.

Please remember to send in your dues. And while you're at it, add a little something to the AEG Foundation.



Hoover Dam Tour, September 20th

***NEW!* RSVP For Meetings on the Web**

There is a new and *easy* way to RSVP for the monthly meetings. Just go to www.aegrms.org and click on "RSVP by clicking here". A short form opens up; fill it out and hit submit. Hopefully some of you will try it and we'll see how it works. Thanks Jill!

The 2006 AEG/GSA Richard Jahns Distinguished Lecturer in Engineering Geology



Jerry D. Higgins, Ph.D., P.G. has been named the 2006 Jahns Distinguished Lecturer. The Association of Engineering Geologists and the Engineering Geology Division of the Geological Society of America (GSA) jointly established the Richard H. Jahns Distinguished Lectureship in 1988 to commemorate Jahns and to promote student awareness of engineering geology through a series of lectures offered at various locations around the country throughout the year. Richard H. Jahns (1915-1983) was an engineering geologist who had a diverse and distinguished career in academia, consulting, and government.

Dr. Higgins has served on the Geology and Geological Engineering faculty at the Colorado School of Mines since 1986. He received a B.S. Geology degree from Missouri State University (1969) and M.S. Geology and Ph.D. Geological Engineering degrees (1975 and 1980) from the University of Missouri-Rolla. Prior to coming to CSM, Dr. Higgins served on the civil engineering faculty at Washington State University and as a geological engineer with a consulting engineering firm and with the City of Springfield, Missouri.

Dr. Higgins has taught many engineering geology courses and short courses. His major areas of research are slope stability, rockfall analysis and mitigation, debris flow mechanics, seismic hazard assessment, geotechnical design in loess, characterization of expansive bedrock, construction materials characterization, and engineering geologic mapping. He has completed over \$1.4 million in funded research from government and private industry. He was a contributing author to the Transportation Research Board (TRB) publication "Landslides: Investigation and Mitigation", coauthored the internationally known Colorado Rockfall Simulation Program (CRSP), authored testing standards for flexible fence rock-fall barriers, and has published numerous technical papers on engineering geology. Presently, he is part of a TRB task force preparing a book on rockfall science. He has given numerous invited presentations and workshops in the U.S. and Europe on many engineering geology topics.

An active member of the Association of Engineering Geologists since 1975, Dr. Higgins has served as chair of the Rocky Mountain Section, chair of the Academic and Student Affairs Committee, and has planned numerous technical symposia at national meetings. He is a member of the TRB Engineering Geology and Rockfall committees. He served five years as the geological engineering representative to the ABET, Inc. Engineering Accreditation Commission, and presently serves on the ABET Board of Directors. He is also active on the SME Education and Curricular Issues committee and serves as a trainer for geological engineering accreditation evaluators.

The 2006 Jahns lecture titles include: "Rockfall Analysis and Mitigation", "Engineering Geology of Expansive Soils and Bedrock", "Site Characterization for Slope Stability Assessment", and "Preparation for Careers in Engineering and Environmental Geology". Requests for scheduling lectures should be directed to Jerry Higgins at jhiggins@mines.edu.

Upcoming 2005-2006 Presentations

November 10th - Ray Henn, *Inflatable Pillows for Tunnel Stabilization*

December 9th - **Annual Holiday Program**, Ken Wright, *Paleohydrology of Machu Picchu*
(NOTE this is on **FRIDAY**)

January 20th - **Executive Council Meeting**, Darrel Schmitz
(NOTE this is on a **FRIDAY**)

February 9th - **Annual Student Night**

March 9th - Phil Sirles, *Use of Geophysics in Transportation*

TBD - Jerry Higgins, Jahns Lecture.

Your Business Card Here

The section is looking for companies or individuals who would like to advertise their products or services in the section newsletter and on the website. This is anything from a business card (\$10/month), quarter page spread (\$20/month), to a half page exposition (\$40/month). If you are interested, contact Kristi Ainslie newsletter@aegrms.org.

We had a couple of takers last year; that really helped fill out the newsletter and make it interesting for us all. Thanks! Hopefully past ads have drawn some more attention to this.

Case Histories

We are always looking for individuals to provide their knowledge and experience to the AEG-RMS community through case histories and articles of interest. Please contact Kristi Ainslie at newsletter@aegrms.org if you have anything you would like to share. We have had good success with this in the past, so keep it going.

Parting Words

Sorry this edition of the newsletter is a bit late. Things have been really busy since returning from Las Vegas. We have some photos we'd like to share, and you should see them next month. If anyone has any exciting events from Vegas to share, please feel free to send it on. We'd love to hear about it!





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