

# ASSOCIATION OF ENGINEERING GEOLOGISTS

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

## THE ROCKY MOUNTAIN SECTION NEWSLETTER

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

### January Meeting Date Changed Thursday January 29, 2004

#### MEETING DATE

THURSDAY  
JANUARY 29, 2004

#### TIME

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

#### LOCATION

HOLIDAY INN  
455 S Colorado Blvd  
Denver, CO  
See map below

#### COST

\$22 Members  
\$22 Non-members  
Free for Students first  
time, \$10 then after

#### RESERVATIONS

c/o AEG Reservation Line  
(303) 790-2161 x 243 or  
[meetings@aegrms.org](mailto:meetings@aegrms.org)  
**BY NOON, TUESDAY  
JANUARY 27<sup>th</sup>**

The January meeting is changed to coincide with the quarterly meeting and allow us to have David Simon present. The cost will be \$22 for both members and non-members and the meeting will be located at the Holiday Inn on Colorado, see side bar and map for more information. Don't forget Student Night is February 12<sup>th</sup>, only two weeks after this meeting

### A Case Study - The Holocene "Downtown Fault" in Salt Lake City, Utah: Technical Controversies and Geopolitics

Simon, David B., Simon-Bymaster Inc., 1025 East 400 North, Bountiful, UT 84010 ([dbsimon@att.com](mailto:dbsimon@att.com))

In 1999, investigations for expansion of the Salt Palace Convention Center in downtown Salt Lake City revealed the presence of three grabens, bounding faults, liquefaction dikes, and offset paleosols and alluvial fan sediments of Holocene age. These were judged to be caused by multiple displacements of an on-site Holocene fault, the southern terminus of the Warm Springs fault, previously mapped through the site and physically documented at the Washington Elementary School ~1.5 km to the north. A second-party opinion agreed with this view.

This interpretation would necessitate substantial setbacks in accordance with State of Utah active-fault criteria, major delays in construction schedules, or possibly abandonment of the site. Accordingly, the Convention Center expansion would not be ready for the 2002 Winter Olympics in Salt Lake City, nor for three major income-producing (>\$45 million) trade shows already under contract.

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The client therefore sought a “third-party” opinion. The third-party firm concluded that the downtown features were solely the result of liquefaction-induced, lateral spread caused by off-site seismic events, and that CPT-interpreted displacement (up to 9 ft) of the underlying, ~12-27 ka Bonneville Lake beds were minor anomalies. The divergent technical opinions were sent to an independent reviewer who, with only hours remaining until the bond issuance would expire, agreed with the “liquefaction only” scenario. Construction on the site was completed in 2001.

The technical controversies and geopolitics of the project were well documented by the local press. The project became the topic for considerable discussion within the geologic community west of Denver and was the basis for the Sarah Andrews novel “Fault Line.”

Investigations for the “Holocene Downtown Fault” (which, in our judgment, truly exists) also exemplify, unfortunately, the influence of substantial geopolitical pressure. This included the public “rebuking” of the State Geologist (who held an appointed position), the political removal of the Salt Lake County Geologist from the project, the political removal of the Utah Geological Survey as an independent reviewing agency, and the major interest, if not speculation, of the local press about other possible active faults in downtown Salt Lake City.

Lessons to be learned (and relearned): (1) differences in interpretation of technical data have been and continue to be common, particularly when first- or second-party opinions have potentially adverse economic consequences; (2) high-value, high-visibility projects almost invariably invite political “manipulation” when short-term social and economic interests are at stake; and (3) legislating public safety (e.g., Holocene faults) is one matter, enforcing such legislation is another. However, at least one benefit has apparently accrued from the “Downtown Fault” investigations: the local geologic standard-of-care, we hope, has now been substantially upgraded.

## **Words from the Chair**

Happy New Year and I hope prosperity is close at hand for us all this next year. The newsletter may have the appearance of being late, but since the next meeting is not until January 29, the newsletter is actually on time. Please note the change in venue! The meeting will feature our humble (?) Association President, Mr. David Simon. The Executive Council meeting is being held in Denver the week of January 26 and thus the change in the normally scheduled week and venue. This will be a great opportunity for the Rocky Mountain Section to meet the President and the entire Executive Council.

Please note the short duration between the January meeting and Student Night (only 2 weeks!). Don't let this deter you from attending both events, as they will both be a lot of fun with great talks.

On the weekend after the Executive Council meets, the strategic planning committee will be in town to attend a workshop. They have requested all members to complete an on-line survey that will assist them in developing a plan that effectively represents all of AEG. The survey must be completed by January 16. To access the survey, simply go on-line to the following link: <http://www.surveymonkey.com/s.asp?u=63785347048>

I would also like to remind everyone that abstracts for the 2004 Geoconference co-hosted by ASCE, AEG and CAGE titled, "H<sub>2</sub>GEO, Geotechnical Engineering for Water Resources," are due on January 23, 2004. If you need a copy of the call for papers, please contact us.

Last month we included in the newsletter the draft legislation that proposes to move the Colorado Geological Survey (CGS) to the Colorado School of Mines (CSM). I requested input from the Rocky Mountain Section such that I could draft a response to the sponsor of the bill on behalf of AEG. Since then, I have received a response from three members, all of which have been against the legislation as written. In my opinion, the lack of response is likely due to an overall lack of interest from the members. In addition there are members who can't respond for various reasons. As a result, we have included in the newsletter a summary of the letter of opinion that will be sent to Ms Ramey Johnson and a ballot of approval or disapproval. Please fill out the ballot and fax or email by January 16, 2004.

On a lighter note, I'm sure that most of us have heard of the passing of one of our longest and most memorable members, Dick Lemke. To show our appreciation and condolences, the Rocky Mountain Section will be sending a card to Mrs. Lemke and providing a donation to the William R. Lemke Fund. The card will be available at the January meeting for all to sign.

## Ski Day

The second annual AEG-RMS ski day will be held on Saturday (Aargh), January 31, 2004. At this time we are hoping that David Simon can join us. We are planning on returning to Copper Mountain. Due to potential traffic concerns, lets meet at the I-70 road cut at 6:30 am for a departure by 6:45 am. We can organize carpools at that time. Spouses and/or significant others are welcome. Discount coupons are available through some of the popular entertainment books and discount lift tickets are available through King Soopers. Please RSVP to Darin by January 28, 2004 if you are planning on attending.

## Student Night

It is hard to believe it is once again time for our annual student night. This is the chance for undergraduate and graduate students to present some of their recent work. Attached is a flier with instructions on reserving a booth and sponsoring a student's dinner. This is the professional members of the section opportunity to give help the future of the profession.

Students need to have abstracts to Kristi McQuiddy [newsletter@aegrms.org](mailto:newsletter@aegrms.org) or Ed Friend [webmaster@aegrms.org](mailto:webmaster@aegrms.org) by **JANUARY 23, 2004**. There will be a maximum of four speakers, but if we have more than four abstracts, the students not speaking will be encouraged to present a poster.

## RMS 2003-2004 Speakers

February 12, 2004 - Student Night, *Students from South Dakota School of Mines and Technology and Colorado School of Mines*

March 11, 2004 - TBD

April 8, 2004 - *Jeff Keaton, 2004 Jahn's Lecturer*

May 13, 2004 - *Rex Loesby, Yule Quarry Marble Colorado (possible field trip to follow in May or June)*

## **AEG-RMS Response To Proposed Legislation to Move Colorado Geological Survey to Colorado School of Mines**

Darin Duran has compiled comments received on the proposed move of CGS to the CSM campus. Attached is a ballot with this summary. Please review and return to Darin your vote and any comments you may have by fax at 303-220-0442 or by e-mail at [chair@aegrms.org](mailto:chair@aegrms.org).

## **2004 Engineer's Week Annual Dinner**

Attached is a flier announcing the 2004 Engineer's Week Annual Dinner on Friday, February 27, 2004. Contact Sam Bartlett if you have any questions or would like additional information at [samuelbartlett@aol.com](mailto:samuelbartlett@aol.com).

## **An Engineering Geologist's Experiences by Charles Robinson**

The Eisenhower Tunnel . . .

In the fall of 1961, I became aware that the Colorado Highway Department was considering driving a tunnel under the Continental Divide for Interstate Highway 70. I was able to convince the Highway Department, with the help of the Bureau of Public Roads and the U.S.G.S., that I should do the geologic study for the proposed pilot bore (the Straight Creek Pilot Bore) for what became the Eisenhower-Johnson Tunnels. Surface geologic mapping was done in 1962, assisted by Fitzhugh T. Lee. In 1962, we also directed the drilling of three core holes along the tunnel alignment to the tunnel grade.

In constructing the plaza to start the pilot bore in 1963, a landslide was created, the Loveland Basin Landslide. I immediately took over the study of the landslide, assisted by John D. Post, geologist for the Highway Department, and Fitzhugh T. Lee. The Highway Department prepared a topographic map of the slide area at 1:2400, which was used as

the base for the geologic mapping, geophysical investigations, and stability studies. Seismic investigations performed by Roderick D. Carroll, James H. Scott, and Fitzhugh T. Lee of the U.S.G.S. were the first seismic investigations of a landslide west of the Mississippi River. The results of all the investigations are published in U.S. Geological Survey Professional Paper 673 (1972).

Fitz Lee and myself did the geologic mapping of the pilot bore. Under John Post of the Highway Department, a geologic map of the face was made at the end of each shift. The driving of the tunnel was done on a 24-hour basis, six days a week. The only time we could map the geology and make other investigations was between midnight on Saturday and the start of the graveyard shift Monday morning. Geophysical investigation was done under the direction of James H. Scott and Roderick D. Carroll of the Survey, and a very significant hydrologic investigation was made by R. Theodore Hurr and David B. Richards of the Survey. The supports were instrumented by John F. Abel, Jr., a graduate student of the Colorado School of Mines – probably the first tunnel instrumented in the United States. The results of these investigations are published in U.S. Geological Survey Professional Paper 815 (1974).

Next month, going into private practice . . .

## **AGI Government Affairs Program**

Final Action on FY 2003 Appropriations Could Cut Geoscience Programs! For more information on this important topic, visit the AEG-RMS website [www.aegrms.org](http://www.aegrms.org) and click on AGI GOVERNMENT AFFAIRS MONTHLY REVIEW.

### **New Website and E-mail**

During the summer the section upgraded our hosting service for the website. Along with this we now have the capability to send out e-mails from our website. We are planning improvements to the website, if you have any ideas or contents please contact Ed Friend at [webmaster@aegrms.org](mailto:webmaster@aegrms.org).

### **Aspiring Employees**

Many resumes from students graduating in the very near future have been received. Employers, please contact Tim Petz [past-chair@aegrms.org](mailto:past-chair@aegrms.org) for information regarding potential employees for summer part-time or full-time work. Students can drop off your information with Tim at the meetings or via e-mail.

### **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 Ed Friend [webmaster@aegrms.org](mailto:webmaster@aegrms.org) or Kristi McQuiddy [newsletter@aegrms.org](mailto:newsletter@aegrms.org).

## **Parting Words**

Hopefully every one had safe, fun, and happy holidays. Harley Benz gave an interesting presentation in December to a good turnout of members. In general, meeting turnouts have been very good considering Vail just happened a little over three and a half months ago.

Student night is just around the corner and we are looking for companies who would like to reserve a booth and possibly sponsor some student dinners. Please contact Ben Arndt or Ed Friend (phone numbers are on the attached flier) if you are interested.

The spring speaker lineup is starting to shake out and a lot of interesting talks are on tap for the rest of the year.

We look forward to seeing everyone at the next meeting on January 29.

The Editors  
Kristi McQuiddy  
Ed Friend

**INDIVIDUAL BALLOT**  
**AEG-RMS RESPONSE TO PROPOSED LEGISLATION TO**  
**MOVE COLORADO GEOLOGICAL SURVEY TO COLORADO SCHOOL OF MINES**

Summary of AEG-RMS Position: The Rocky Mountain Section of the Association of Engineering Geologists (AEG) does not support the Legislation as drafted on November 3, 2003 due to the elimination of Severance-Tax funding beginning in the year 2014. This funding, in our opinion, is vital in order for the Colorado Geological Survey (CGS) to continue its mission. This mission cannot be maintained with only "soft money" through grants, since most grants are research oriented and not geared towards the accumulation and dissemination of data in the interest of the public. In addition, CGS uses the severance tax allocation as matching funds to obtain Federal and State grants. Taking away this allocation will greatly inhibit the ability of CGS to go after these types of grants.

AEG does agree with the reestablishment of the Colorado Geological Survey Advisory Board (CGSAB), however, disagree with the unbalanced representation of the Geologic community. The bill as drafted has four representatives from the Oil and Gas industry, four representatives from the mining industry and four at large representatives. The at large members include a representative of local government, the environmental community, institutions of higher education and one practicing geologist from hydrogeology, engineering geology, or environmental geology. Out of these 12 members of the CGSAB, only one member will be present to represent the interests of a very significant population of consulting geologists in the State. AEG would support the legislation if the clause removing the severance tax in 2014 is removed and the consulting engineering geologist, hydrogeologist and engineering geologist have a more balanced representation on the CGSAB with the oil, gas and mining industries.

**VOTE:**

\_\_\_\_\_ Yes, I agree with this response.

\_\_\_\_\_ I would agree with the response if, \_\_\_\_\_  
\_\_\_\_\_.

\_\_\_\_\_ No, I don't agree with this response. My Opinion is:

Fax responses to Darin Duran at 303-220-0442 or email to [chair@aegrms.org](mailto:chair@aegrms.org)

# AEG STUDENT / CAREER NIGHT FEBRUARY 12<sup>TH</sup> 2004

Please join us for this annual event and help support our section and the students

February 12<sup>th</sup>, 5:30pm in the Student Center at the School of Mines. \$20 for members.

## RESERVE A BOOTH

Cost for a booth is \$100. You will receive a 6-foot booth space and a dinner.

## STUDENT DINNERS

You may also sponsor a student for dinner at a cost of \$25.

Please complete below:

Company Name \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Booth Reservation \_\_\_\_\_ @ \$100/each

Student Dinners \_\_\_\_\_ @ \$ 25/each

Reservation \_\_\_\_\_ @ \$ 20/each

Total \_\_\_\_\_

Mail check made out to AEG, to PO Box 280663, Lakewood CO 80228-0663

For more information or to sign up by phone please contact:

Ben Arndt (303) 781-9590

Darin Duran (303) 220-0300

Ed Friend (303) 662-0100

# *2004 Engineers Week Annual Dinner*

## *“Turning Ideas into Reality”*

*Date:* Friday, February 27, 2004

*Place:* DoubleTree Hotel, South of I-70 at 32<sup>nd</sup> & Quebec

*Program:* Ken Wright, P.E.

Topic: Ancient Water System at Mesa Verde

*Time:* Reception: 6:00 – Dinner: 7:00 pm

*Cost:* \$30.00 per person

Corporate Table of 8 = \$240.00

(Includes full signage and name in program, if received by February 16<sup>th</sup>.)

### *Program Advertising*

Size of Program – 5 ½ x 8 ½

Full Page Advertisement: \$125.00

Half Page Advertisement: \$75.00

Business Card Advertisement: \$40.00

**All Engineering Societies are encouraged to bring their banners.**

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Please make reservations for the Engineers Week Dinner for:

Name / Contact: \_\_\_\_\_

Company: \_\_\_\_\_

Phone: \_\_\_\_\_

- Enclosed is our check for \_\_\_\_\_ people.
- Enclosed is our check for \_\_\_\_\_ Corporate Tables.
- Enclosed is our check for \_\_\_\_\_ advertisement. Call regarding ad copy.
- We plan to bring our banner.

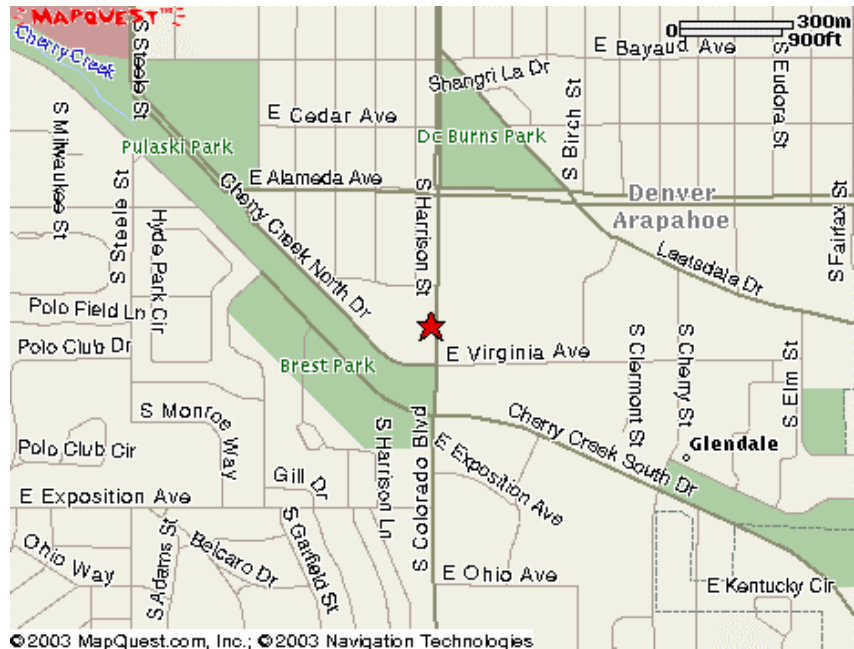
Fax, email, or mail form to: Professional Engineers of Colorado

11166 Huron Street, Ste 27

Denver, CO 80234

Phone: 303-480-1160 Fax: 303-458-0002

Email: pec@imigroup.org



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