

ASSOCIATION OF ENGINEERING GEOLOGISTS

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

THE ROCKY MOUNTAIN SECTION NEWSLETTER

www.aegrms.org

MEETING DATE

THURSDAY
NOVEMBER 14, 2002

TIME

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

LOCATION

GEOLOGY MUSEUM
Colorado School of Mines
Golden, CO
See map below

COST

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

RESERVATIONS

c/o AEG Reservation Line
(303) 790-2161 x 243 or
meeting@aegrms.org
**BY NOON, FRIDAY
NOVEMBER 8th**

Geologic Assessment of Naturally Occurring Asbestos for Health Risk Assessment

David W. Bieber

Geocon Consultants, Inc., Rancho Cordova, CA

Naturally occurring asbestos (NOA) has become a material of concern with regards to human health risks. Asbestos minerals are found throughout North America, but have not previously been a major focus of concern. Information regarding health hazards and exposure to asbestiform material associated with vermiculite production in Libby, Montana has brought concerns to the forefront. Site-specific identification and assessment methods for naturally occurring asbestos for environmental risk assessment have been poorly developed. This is largely because the assessment methods used were developed either for assessment of asbestos in industrial settings, or for the economic assessment of naturally occurring deposits for minerals exploitation. However, asbestiform minerals occur in many locations in non-economic quantities as accessory minerals. The two major groups of asbestos minerals are serpentine (chrysotile) and the amphibole asbestoses. The characteristics of the asbestiform habit are that crystals are fibrous in appearance, flexible, chemically resistant, and have a high tensile strength. The various asbestiform minerals generally form due to metamorphism of fractured mafic rocks in a chemical environment with little or no free silica. NOA minerals are not always apparent to the eye. Therefore, knowledge of the environment of deposition is frequently the best indicator of the potential for the formation of NOA minerals.

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Case Histories

This is a guest column we hope to continue with contributions from AEG members. Harry Siebert has again offered a column. We are looking for other professionals to share their insight and knowledge with their peers through this medium. If you have an article to contribute contact Kristi McQuiddy newsletter@aegrms.org.

Vail 2003 Kickoff meeting

The Vail 2003 kickoff meeting is on Tuesday October 29th at 6:00 PM in Haley and Aldrich's Office at 110 16th Street, Suite 900, Denver, CO 80202-5202

CSM Student Section Silent Auction

The CSM Student section of AEG will be having a silent auction at the November meeting. In past years the students have had many great items on the auction. All proceeds will benefit the activities of the student section. Please try to attend and support the student section.

Memories from Reno 2002



The past chair Tim “Energizer Bunny” Petz showing off Core Lager, one of the beers for Vail 2003.

Artificial Support with Rock Bolts or Anchors

Harry Seibert

Anchors or bolts are really a 1940's technique for stabilizing slopes, equipment, bridge abutments, etc. The transferring of loads to resolve moments was the responsibility of structural or mechanical engineers. Currently other technical disciplines design anchors and rock bolts. The rock mass or other equivalent material governs what support system might be considered.

A practical constraint in civil works projects is encroaching onto the property of others. A great deal of analysis went into the dead file because of this concern. Additionally a number of underpinning projects of adjacent buildings went to soldier piles and wood lagging.

Joint mapping is required to define the bulk strength of the rock mass. Simply make a cube of the rock mass and then reduce the strength by the rock type and the joints present a crude type of defect analysis. Then add artificial support and analyze with various computer software programs. Joints require classification relative to length, frequency, surface conditions (roughness, smoothness, clay coatings, mineralization, dense fillings). Rock type can mask joints as monzonites and sometimes a petrologic analysis is helpful. If explosives are utilized to fragment rock joints missed joints may become apparent. If you are very familiar with the structural geology go with your analysis. If you are not too familiar, then introduce a "ghost joint" and it may not adversely affect your rock competency determination. Select the type of support cable anchor or rock bolt. Rock bolts are solid steel, corrosion protected coated steel, hollow, tubular, etc.

A rock slope failed on 285 west of the Indian Hills exit. The problem was a curvilinear joint that was not identified. The bolts were not long enough and were only dowels.

The high speed printing presses for the Denver Post used rock bolts as anchors in concrete.

A tower crane in Black Hawk was founded with rock bolts providing a cost and schedule savings.

Blue Mesa and Cheyenne Mountain both had tensioned rock bolts tested after 25 years with nearly zero percent failures.

Bolts and anchors work in the surface and underground to provide artificial support. The analysis must be conservative as human life and occupied property are involved. I questioned a professor years ago (1950's) when he stated a human life is worth \$50,000 and if we lose 8 lives we save money if we do not use bolts. Artificial support has a financial cost and I do not like to quantify the loss of a human life and attendant pain and suffering.

RMS 2002-2003 Speakers

December 12, 2002 - Spouses Night, Bob Reynolds of the Denver Museum of Nature and Science

January 9, 2003 - TBD

February 13, 2003 - Student Night, *Students from South Dakota School of Mines and Technology and Colorado School of Mines*

March 13, 2003 - TBD

April 10, 2003 - TBD

May 8, 2003 - TBD

Rocky Mountain Section Outreach Program

Attempts are being made to increase member participation in the outlying areas of the section. If you have ideas for an event, contact Ed Friend at webmaster@aeqrms.org.

Geological Society of America National Meeting 2002

The 2002 GSA meeting will be held here in Denver this October 27-30. The Engineering Geology Division of GSA is beginning to assemble a program. General information on the meeting and the forms for submitting session proposals is available at <http://www.geosociety.org>. If you have questions for which you cannot find the answer on the web page, please contact Judy Ehlenor jehlen@tec.army.mil or Bill Haneberg, bill@haneberg.com.

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Words from the Chair

I would like to remind the Section about the CSM Student Chapter Silent auction occurring simultaneously with the November section meeting at the Colorado School of Mines Geology Museum. In years past, the students have gathered a wide variety of items to bid on so please make this a rewarding fund raising event. The guest speaker is the current AEG Treasurer (you may want to speak with him – read on) David Bieber of Geocon Consultants, Inc. whose topic is the effects of naturally occurring asbestos.

The AEG Annual Meeting in Reno, NV, was a big success. Initial counts estimated over 600 paid attendees and all of the field trips were filled to capacity. The Rocky Mountain Section was noticeably well represented considering the proximity to the California sections and members.

Finalizing the move to AEG's new headquarters in Denver highlighted the Board of Directors

Meeting. The contracts for the new management company, journal and news publications, and meeting and advertising coordinator (Julie Keaton) were reviewed. The new AEG operations structure will ensure long term cost savings, accounting checks and balances and streamlined coordination. We were made very aware of how few general operating funds are currently available to get through the remainder of this fiscal year. The cost savings realized once the new management group and AEG operations structure are fully integrated will ease the existing cash flow problem.

We will be engaging in several fund raising efforts throughout the year and anyone with suggestions and experience please contact me through the Chairman's E-mail on the website (chair@aeqrms.org). Some ideas put forth include; adding section-like meetings presenting "layman-related" topics to attract an entirely different demographic or industry group, organize a one-time potluck dinner meeting to save on costs, ask for donations of geologically related publications from the personal collections of our members to be resold at a future section meeting, and selling AEG related items through the student section. I would like to think that as a Section we could become a Platinum Corporate Sponsor (\$1,000) during this financial pinch. I would welcome any suggestions and comments regarding our Section's involvement.

I also encourage our members to sign their companies up as Corporate Sponsors and/or make individual contributions to the Engineering Geology Foundation (Leggett Fund/Education and Publication Fund) to help the Association

Thanks
Jim Wright

Aspiring Employees

Many resumes from students graduating in the very near future have been received. Employers, please contact Tim Petz chair@aeqrms.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@aeqrms.org or Kristi McQuiddy newsletter@aeqrms.org.

Parting Words

From the reports we have heard from other AEG-RMS members, Reno was a huge hit, it is now our turn to start the planning to make Vail 2003 THE BIG ONE! Mike Hattel is doing a bang up job organizing the Vail meeting and the kickoff meeting with Julie Keaton from headquarters will be Tuesday October 29 as mentioned above. Doug Boyer is working hard to pull together Engineering Geology in Colorado Contributions, Trends, and Case Histories, the publication that will be available for the Vail meeting. If you have the time to help with planning Vail 2003 attend the meeting or e-mail Mike at vail2003@aeqrms.org.

The Editors

Ed Friend
Kristi McQuiddy

Thank You Letter From Dick Lemke



Mr Richard W Lemke
655 S Pierce St Unit 244
Lakewood CO 80226

Phone 303 742-2115

Oct. 15, 02

To: Jim Wright
RMS Chairperson

I was overwhelmed and delighted with the great outpourings of letters from the section concerning my health.

Much as I would like to, there is no way that I can answer each letter. So Jim, perhaps you would be willing to say a few words at the next meeting expressing my abundant thanks.

As one of the first members of the section, I have always had a soft spot in my heart for AEG. It was a real pleasure to first serve in the different chairs of the section. Later, I had the great pleasure to serve in similar positions at National level. I thought being president was the acme of awards for me. So it came as a great and tremendous surprise when I was awarded the Crown Jewel - HONORARY MEMBER.

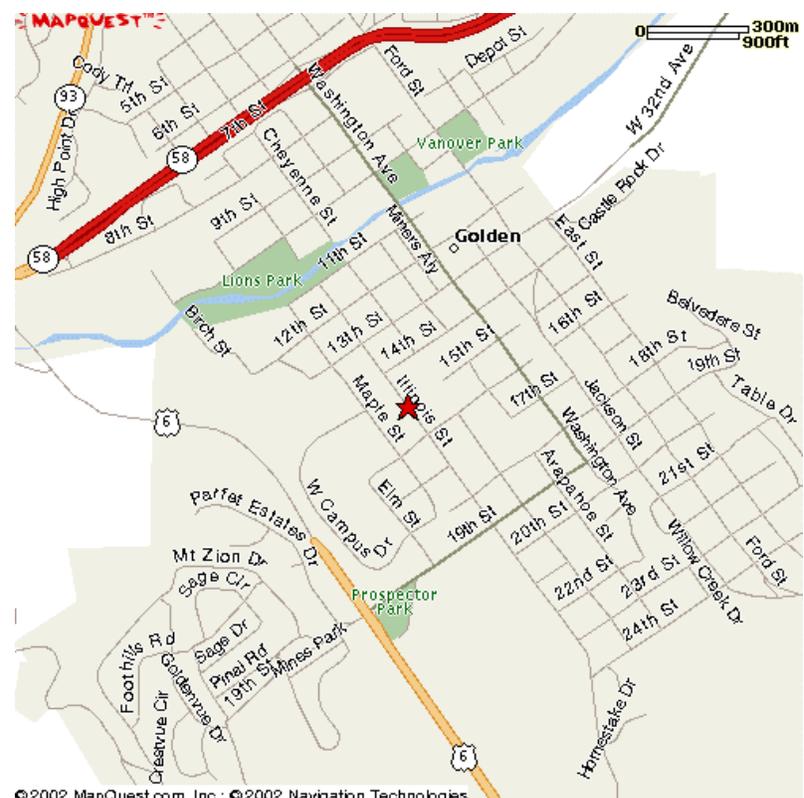
But few of these honors would have been possible without the dedication of the members of AEG, both in the section and nationally. Their teamwork, cooperation, friendliness and other attributes paved the way. To them I wish to share these awards.

But there is one other person that should share these awards - my darling wife to whom I have been married 62 wonderful years. During at least half of my field work she was my constant companion. She was always upbeat even when the going got tough. For example when we worked out of Skagway, Alaska the one motel was full so we stayed in a unique structure that had been built during the gold-rush days of the 1890's. It had been a house but not a home! Dust covered the floor so thickly that June put a train of newspaper sheets from the bed to various parts of the room. Not a murmur or discontent from June.

Richard W. Lemke
555 ~~1111~~ Pierce Street, Apt. 244
Lakewood, Colorado 80226

Now, the sands of time are running out for me. Congestive heart failure. Cardiac surgeons say they will not operate or chances are poor that I would survive an operation because of my age (89+). I have few regrets because I have lived a full life. My one big regret is that June will be alone without me. We are as one.

Cordially,
Dick Lemke



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