

Serving Professionals in Engineering, Environmental,
and Ground Water Geology

OREGON SECTION

NEWSLETTER

The Official Newsletter of the Oregon Section Association of Engineering Geologists

Mar. 1996

VOLUME 96, NUMBER 3

MARCH MEETING:

Topic: "Rock Fall Analysis and Stabilization Design"

Speaker: **ERIK ROREM**

Date: **Thursday March 21, 1996**

Time: 6:00 Attitude Adjustment
7:00 Dinner
8:00 Program

Location: **McMenamins Pub**
at 2927 SW Cedar Hills Blvd., Beaverton.
(Corner of Cedar Hills Blvd. and Jenkins Rd.,
Adjacent to Tower Video, and North of Beaverton Mall).

Erik Rorem
Western U.S. Rep
Vancouver
B.S. - Geology, Univ. of Minnesota, Duluth
MBA - Univ. of Nevada, Reno

Len Reinken
May 7+4?
Counties } edu. on
Cities } slides

Program Continued:

menu: **Pizza Bread -**
P.J.'s Famous (cheddar, mozzarella)

Cold Sandwiches -
Roast Beef
Pastrami & Swiss
Turkey & Swiss
Tuna

On sourdough roll, sliced sourdough, whole wheat, or rye (please specify).

Burgers -
Garden Burger
Hamburger
Cheeseburger
Bacon Cheeseburger
Captain Neon Burger (blue cheese dressing, bacon)
Dungeon Burger (mushrooms, Swiss)
Communication Breakdown Burger
(cheddar, grilled onions, peppers, and mushrooms).

Specials-
Black Bean Pasta (sour cream, salsa, cilantro, peanuts)
Chicken extravaganza (grilled chicken burger).
House Special (steak, cheddar, onions, peppers, mushrooms).

Cost: **\$10.00 for members, and \$5.00 for students**

Reservations: Please call Charlie Hammond 452-9770 ext 103 by Tues March 19 (noon)

ABSTRACT

“Steel Wire Rope Safety Net Systems: A Brief History of Applications to Rockfall Mitigation in the U.S.”

By

Erik J. Rorem, Regional Manger - Western USA

BRUGG CABLE PRODUCTS, INC.
Vancouver, WA

tel: (360) 253-3438 fax: (360) 254-2522

Rockfall and debris flow are natural occurrences that in the wilderness, can be brought about by erosion as well as by animals and vegetation. Such incidents can also be caused by human interference. Today, expansion into previously uninhabited areas for roads, housing, utility structures, recreational facilities, etc., has caused rockfall and debris flow occurrences to escalate. The result is an increase in danger zones and the risk of life and property, and consequently an increase in the need for protective measures.

Rockfall and unstable rock slopes can be effectively controlled by utilizing steel wire rope net systems, either as barriers or as slope draping. The chief advantage of such systems over rigid type barriers is the flexibility of wire rope netting, permitting kinetic energy dissipation, yet providing high strength and consequently low maintenance.

Brugg Cable Products has provided such rockfall protection barrier and draping systems for nearly 50 years. A review of the history and design considerations involved with these systems, with particular emphasis on testing and development will be presented. A video produced by the California Department of Transportation (Caltrans) showing such testing will be included with this presentation (equipment availability permitting). The presentation will also include a slide review of several installations in the Pacific Northwest and elsewhere in the United States. It is hoped that this information may contribute to further safety against the dangers of rockfall.

ENVIRONMENTAL , GROUNDWATER AND ENGINEERING GEOLOGY OF OREGON

PAPER TITLES AS OF March 14, 1996

(Please note - titles are tentative as are some of the topics & authors)

1) Preface: Scott Burns, PSU Geology

2) Chap 1: **Geologic and Physiographic Provinces:**

1) "Geologic and physiographic provinces of Oregon", Scott Burns, PSU Geology

3) Chap 2: **Geologic Practice:** Gunnar Schlieder, GEM Consulting, Eugene (new editor)

4) Chap 3: **Facilities:**

1) "An overview of engineering geology applied to facilities in Oregon", Charlie Hammond, Cornforth Consultants and Jim Griffiths, Army Corps of Engineers

2) "Engineering Geology of the Trask River Dam Raise", Charlie Hammond, Cornforth Consultants, Inc.

3) "Seismic design considerations of the Trask River Dam raise", D.A. Vessely, Cornforth Consultants, Inc.

4) "Engineering geology of the Rogue drainage projects", Tom Amundson, U.S. Army Corps of Engineers

5) "Engineering geology of the Santiam drainage projects", Chris Budai, U.S. Army Corps of Engineers

6) "Engineering geology of the McKenzie drainage projects", James Griffiths, U.S. Army Corps of Engineers

7) "Engineering geology of the Bureau of Reclamation structures in Oregon", Brent Carter, Bureau of Reclamation

8) "Slope stability at the Elk Creek Dam site, Southern Oregon", T. Amundson, Army Corps of Engineers; Chip Barnett, PSU Geology

9) "Seismic evaluations of Cougar, Blue River and Blue River Auxillary Dams", Richard Hannon, Army Corps of Engineers; Scott Walker, PSU Civil Engineering

5) Chap. 4: **Transportation:**

1) "Overview of engineering geology and transportation in Oregon", David Scofield, Squier Associates

2) Geotechnical investigation and remediation of the Arizona Inn landslide in southwest Oregon", Gary Peterson and Rad Squier, Squier Associates and _____, ODOT

3) "Engineering geology and construction of the westside light rail tunnel through the Tualatin Mountains, Portland, Oregon. Gary Peterson, Squier Associates, Inc. and Ken Walsh, Parson Brinckerhoff

4) "Hydrogeologic investigation of the Bonneville Fish Hatchery Wellfield, Columbia River", David Scofield, Squier Associates and Clarence Keech, U.S. Army Corps of Engineers

5) "Geotechnical investigation for the Columbia Slough Consolidation Conduit (CSCC) in Portland, Oregon" Andrew Harvey and Arlan Rippe, Squier Associates

6) Ancient landslide impacts on design and construction of hydroelectric facility, Pelton Re-regulating Dam, Deschutes River, Oregon", Rad Squier and Arlan Rippe, Squier Associates

7) "Engineering geology and foundation systems for high-rise structures in downtown Portland", Rad Squier, Squier Associates and Bill Freeman, Bureau of Buildings, Portland

8) "Pioneering engineering and environmental geophysics in Oregon", Sig Schwarz, S.D. Schwarz and Associates, Inc., Kenmore, WA

6) Chap. 5: **Geologic Hazards:**

1) "Overview of engineering geology and geological hazards in Oregon", Scott Burns, PSU Geology and Ruth Wilmoth, Columbia Geotechnical

2) "Engineering geology of the Portland Highlands landslide" C.M. Hammond and D.A. Vessely, Landslide Technology

3) "Canyonville landslide, Douglas County, 1974" Ed Busby, GeoWest, Ashland

4) "Floodplain and bank erosion analysis in Oregon, James Kennedy, Dept. of Land Conservation and Development, Salem

5) "Landslides of the Rogue River National Forest", Bill Hicks, retired, Rogue River National Forest, USFS

6) "Cochran landslide, Timber, Oregon", Dave Michael, Oregon Dept. of Forestry; Erik Yingling, PSU Civil Engineering

7) "The Tooth Rock Landslide, Columbia Gorge, Oregon", Clarence Keech, Army Corps of Engineers; Barry Sanford, PSU Geology

8) "Sand dune stabilization in the Columbia Gorge", Randy Davis, Dale Allen, ODOT; Dixon Ward, PSU Geology

9) "Lost Creel Lake Needle rock slide, Oregon State Highway 62", Richard Hannan, U.S. Army Corps of Engineers; Larry Margolin, PSU Civil Engineering

10) "Ruckel landslide, Columbia River Gorge, Cascade Locks, Oregon" Richard Hannan, Army Corps of Engineers; Heather Devine, PSU Civil Engineering

11) "Development and application of seismic hazard maps in Oregon", Mei Mei Wang, DOGAMI

12) "Lava tube foundation problems at St. Vincent's Hospital, Southwest Portland," Bob Deacon and Walt Wright, Wright-Deacon Associates, Portland

7) Chap. 6: **Landuse Planning and Environmental Protection,**

- 1) "Overview of engineering geology and landuse planning and environmental protection in Oregon", Dave Michael, Oregon Department of Forestry
- 2) "Geologic hazards of development on sand dunes along the Oregon coast", Frank Reckendorf, Reckendorf Associates, Salem
- 3) "Case histories of landuse along the Oregon coast", Leonard Palmer, retired PSU Geology
- 4) "Bombastic beaches vs. rigid real estate", Leonard Palmer, retired, PSU Geology
- 5) "Airport Way wetlands mitigation", Tom Kuper, David Newton and Associates; Tim Barnes, PSU Geology
- 6) "Status and use of engineering geology on federal lands", Daniel "Joe" Bailey, Region 6 Geologist, USFS
- 7) "Application of geotechnology to intensive forest management - Oregon's approach", Keith Mills, Oregon Dept. of Forestry
- 8) "Loading induced failures on bedding planes in Oregon coast range sedimentary rock types," John Seward, Oregon Dept. of Forestry & Tim Blackwood, Weyerhaeuser
- 9) "Watershed analysis of slope stability in forest management prescriptions", Tim Blackwood, Weyerhaeuser Co.
- 10) "Mining reclamation act and slope stability", Frank Schnitzer, DOGAMI Reclamation Program
- 11) "Cochran Quarry, the regulatory position", Dave Michael for DOGAMI
- 12) "Mitigating natural hazards through Oregon's Landuse Program", Jim Kenedy, Oregon Dept. of Land Conservation and Development
- 13) "Site dewatering, Harris Beach Estates Subdivision, Brookings, Oregon" Tom Ferrero, Ferrero Geologic, Ashland

8) Chap. 7: **Water Resource Evaluation and Management,**

- 1) "Overview of water resource evaluation and management in Oregon", Tim Marshall, Land and Water Environmental Services, Eugene
- 2) "City of Portland Wellfield", Jeff Leyton, Woodward Clyde
- 3) "Fish hatchery well relocation, Bonneville navigation lock, Columbia River, Oregon shore", Jim Griffiths, Clarence Keech, Army Corps of Engineers, Scan Rose, PSU geology
- 4) "Florence Dunal aquifer hydrogeologic study", Ralph Christensen, Engineering and Geologic Resources, Inc, Eugene
- 5) "Lane County groundwater resources management", Ralph Christensen, Engineering and Geologic Resources, Inc., Eugene
- 6) "Ginger Spring watershed geohydrologic study, Butte Falls, Oregon", Tom Ferrero, Ferrero Geologic, Ashland
- 7) "Geohydrologic study and pump test report, Clear Springs Resort, Ashland, Oregon", Tom Ferrero, Ferrero Geologic, Ashland (if released for publication)
- 8) "Hydrology and hydrogeology of the Newberry Volcanic Region - baseline study for geothermal development", Peter Stroud, Dames and Moore, Portland
- 9) "Water resource development in the Central Oregon Cascades, Mt. Bachelor Resort, Bend, Oregon", Scott Wallace, Kleinfelder Inc.

9) Chap. 8: **Waste Disposal and Subsurface Contamination,**

- 1) "Overview of hazardous waste disposal and subsurface contamination in Oregon", John Kuiper, AGRA E&E
- 2) "Salem waterfront hazardous waste site", Walter Burt, GeoEngineers
- 3) "Midland Marine hazardous waste site, Coos Bay", Larry Eaton, Geoengineers
- 4) "McCormick and Baxter Hazardous Waste Site, Portland", Paul McBeth, Pacific Northern Geoscience
- 5) "United Chrome hazardous waste site, Corvallis", Paul McBeth, Pacific Northern Geoscience
- 6) "Umatilla FUDS site" Paul Huebschman, U.S. Army Corps of Engineers
- 7) "Chlorinated solvent contamination of soils and groundwater beneath the Tacoma Street Overpass, Highway 99, Portland, Oregon", John Kuiper, AGRA E & E
- 8) "Vadose zone investigation of nitrate contamination, Ontario, Oregon" Paul Pedone, USDA NRCS, Scot Woodward, PSU Geology
- 9) "Final baseline risk assessment report for a DNAPL impacted property in central Willamette Valley, Oregon"; Chris Hyatt, Cascade Earth Science
- 10) "Characterization and modeling of dissolved volatile organic compounds in the Troutdale aquifer, Salem, Oregon", Mark Trewartha, SECOR International Inc, David Graham, Portland, Oregon; Joseph Hunt, SECOR International, Inc.
- 11) "Tributyltin contaminated sandblast grit: navigating through a removal action at a former shipyard, Coos Bay, Oregon", Larry Eaton, Geoengineers, Portland
- 12) "Investigation and risk-based cleanup of the Salem Riverfront Park: restoration of an industrial property to recreational use", Walter Burr, Geoengineers, Portland
- 13) "Overview of solid waste disposal and subsurface contamination in Oregon", Denise Mills, EMCON

Rock Slope Engineering Workshop

And Portland State University

April 4, 1996

Portland State University, Smith Memorial Center Rm 328
Portland, Oregon

Presented By

Association of Engineering Geologist - Oregon Section

The workshop will feature both lecture and hands on demonstrations of state of the art rock slope design computer programs and instruction to Oregon D. O. T.'s nationally recognized rockfall Hazard Rating System, and current rock slope case histories. Attendees will receive an extensive workshop handout and full working demonstration copies of "Rockpack" and "Rockfall." The following vendors will also be in attendance: Williams Form Engineering, Portland, OR, Maccaferri Gabions, Inc., Seattle, WA, Brugg Cable Products, Vancouver, WA, Extreme Access, Bend, OR, SINCO, Seattle, WA, Reliable Geo LLC, Yakima, WA

R.S.E. WORKSHOP PROGRAM

Late Registration

WELCOME	Scott Burns, Portland State Univ.	8:30-8:45
Oregon Rockfall Rating System	Larry Pierson, Oregon D.O.T.	8:45-9:30
Rock slope Engineering in Saudi Arabia	Larry Pierson, Oregon D.O.T.	9:30-10:00
BREAK	Refreshments provided	10:00-10:20
Introduction to "Rockfall" a rockfall computer simulation program w/ case history examples	Tim Pfeiffer, Oregon D.O.T.	10:20-11:00
Basic Elements of Rock Slope Analysis	Skip Watts, Radford Univ.	11:00-11:30
Introduction to "Rockpack" a rock slope analysis program	Skip Watts, Radford Univ.	11:30-12:00
LUNCH	Provided	12:00-1pm
Introduction to "Rockpack" continued	Skip Watts, Radford, Univ.	1:00-1:45
Canyon Creek Bluffs a case history of rockfall, mass instability, mitigation design and construction	Mike Long, US Forest Service	1:45-2:15
Rockfall Protection Systems	Eric Rorem, Brugg Cable Prod.	2:15-2:45
LaGrande Powerhouse a case history of difficult access and rock slope mapping	Charlie Hammond, Landslide Technology	2:45-3:00
Computer Lab Demonstrations	Skip Watts, Tim Pfeiffer	3:00-5:00

SPACE IS LIMITED TO 75. REGISTRATION IS FIRST COME FIRST SERVE

REGISTRATION FORM

Registration Fee: \$85.00 for AEG members
Structure3

\$95.00 for non members
\$55.00 for students (Limited to 25)

Parking: Provided at PSU Parking

At I-405 & 12th Ave. Exit
Registration Deadline: March 27, 1996

Name: _____

Company/Organization: _____

Address: _____

AEG membership: _____

Send Check Payable to Oregon Section AEG to:

(We Need to Receive you \$ to Reserve Your Space)

Charlie Hammond
Landslide Technologies
10250 SW Greenburg Rd., Suite 111
Portland, OR 97223

SHORT NEWS ITEMS:

1) Last month's mtg:

Joint Meeting with ASCE Dr John A. Focht Jr.
Presented The Twenty-Ninth Terzaghi Lecture
"Lessons Learned from Missed Predictions"

2) ASCE Geotech Group:

Date: Wednesday, April 3, 1996

Place : *to be announced*

Program: "BARNEY RESERVOIR-
DESIGN AND EXPANSION"

Speaker: *RANDY HILL.*
Cornforth Consultants

3) GSA Annual Mtg.:

"Cordilleran Section of the Geological Society of America and Pacific Northwest Metals and Minerals Joint Conference" Portland Oregon April 21 - 24 @ Red Lion Inn, Lloyd Center

Tues. April 23:

"The Future of Aggregate in The Northwest: A Vial Resource To A Growing Area" : Dorian Kuper & Diane Murbach Co-Chairs

Papers:

"Long-Range Forecast of Aggregate Consumption for Oregon" Robert M. Whelan, Oregon Department of Geology and Mineral Industries, Portland OR

"Providing Secondary Beneficial Uses of Mined Land: Can Your Project Benefit the Local Community?" Frank Schnitzer, Oregon Department of Geology and Mineral Industries, Albany, OR

"Ecological Enhancement and Restoration of a Sand and Gravel Site" Ron Rathburn, EnviroScience, Portland, OR

"Aggregate mining Protection and Recent Amendments to LCDC Goal 5" Frank Paisi, Parisi & Parisi, Portland, OR

"Issues Facing the Aggregate Industry In the Northwest and the Challenges Facing Consultants" David J. Newton, David J. Newton Asassociates Inc. , Portland, OR

"Inovative Recycling of Left Over Concrete/Reuse of Aggregates & Wash Out Water." Mark S. Liefke, Lone Star Northwest, Portland, OR

"Land Use Planning and Aggregate Mine Siting in Oregon" Richard L. Angstrom, Oregon Concrete & Aggregate Producers Association Inc., Salem OR

"Winning Politics of Aggregate Resource Permitting." K.C. Klosterman Morse Bros. Inc. , Tangent OR

LOCAL NEWS Please provide input to the next national newsletter. Send to:
Dave Michael, 801 Gales Creek Road, Forest Grove, OR 97116, Telephone is 359-7448 (work).
You can also send a FAX to 357-4548 Internet: DAVE.L.MICHAEL@STATE.OR.US

Be sure to send me news from you or your firm!

MEMBERSHIP

For application forms for Membership in the National AEG, call Ed Stearns who is our membership chair at 661-0462 (h). He will also have copies at the monthly meetings. Membership is on a calendar year basis. Starting this year, if you are a national member, they will collect our local dues of \$10 which just covers our newsletter costs. If you would like to subscribe to the local newsletter (comes out 9 times a year) without being a national member, fill out the form below and mail to Charles Hammond. Note: the following form is only for people and organizations who wish to subscribe to the Oregon AEG Newsletter without being members of the national AEG.

APPLICATION FOR LOCAL MEMBERSHIP IN OREGON SECTION, AEG:

NAME _____

AFFILIATION: _____

MAILING ADDRESS: _____

TELEPHONE: _____

Mail form and \$10 to Charles Hammond, Cornforth Consultants, Lincoln Building Suite 111, 10250 SW Greenburg Rd., Portland, OR 97223.

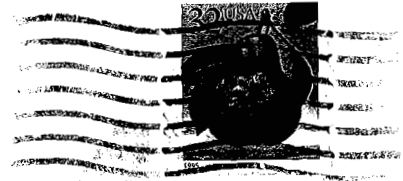
ANNOUNCEMENT OF OUR NEXT EXCITING MEETING

March 21, 1996

AEG



*Dave Michael, Editor
Oregon Chapter, AEG
c/o ODF NWOA
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Forest Grove, OR 97116*



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