

The Official

AEG OREGON CHAPTER NEWSLETTER

<http://www.aegoregon.org>

February Meeting Details

Tuesday, February 20th

Location: Old Market Pub
6959 SW Multnomah Blvd
Portland, Oregon

6:00 pm Social

6:45 pm Dinner

7:30 pm Presentation

Dinner: Salad and Pizza

\$25 Dinner
Exact Change Appreciated
Students FREE with RSVP
(\$5 if no RSVP)

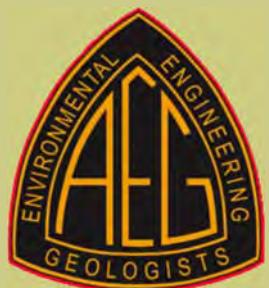
Reservations by 4 pm Friday
February 16th at

<http://aeg-or-2018-02.brownpapertickets.com>

**There is a \$2 surcharge for
those who do not reserve by
the deadline**

Upcoming Meetings:

Mar 20th TBD
Apr 18th John Wakabayashi
May 15th Nick Zenter
Student Poster Night



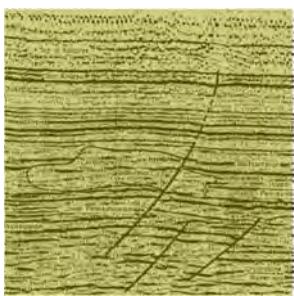
Large dextral motion on the Gales Creek fault, NW Oregon

Guest Speaker: Dr. Ray Wells

New geologic mapping, gravity and magnetic surveys, and laser terrain mapping (Lidar) reveal the Gales Creek Fault (GCF) to be a major right lateral fault in northwest Oregon. The northwest-trending GCF forms the boundary between the Coast Range and the Tualatin and northern Willamette basins. A steep gravity gradient up to 110 mgal marks the fault along the western margin of the Tualatin basin, which is 5 km deep based on gravity inversions. Sharp magnetic boundaries suggest 10-15 km dextral offset of Eocene magnetic basement. The fault consists of two sub parallel strands near Gales Creek. The eastern strand, previously mapped as the GCF by Schlicker and Deacon, follows the Gales Creek valley north at least to the Highway 6 bridge, but it has no obvious physiographic expression in the valley. The western strand crosses east-flowing Gales Creek tributaries that all exhibit kilometers of dextral offset where they cross the fault. An anticline cored by unusual, subaerial Siletz River Volcanics (49 Ma) intruded by Eocene diabase provides a piercing point across the western strand and indicates 12 km of post-Eocene right lateral offset north of Hagg Lake, consistent with the offset of aeromagnetic anomalies. On LiDAR imagery of the western strand, uphill-facing scarps, offset streams and shutter ridges can be traced intermittently along the mapped bedrock fault for 20 km between Hagg Lake and Highway 6. Southwest of Forest Grove, the fault splay into en echelon strands which pass between the Dundee Hills and Chehalem Mountain. Paleoseismic trenching of the fault by the Bureau of Reclamation near Scoggins Dam in 2017 indicates late Quaternary, and possibly Holocene displacement of bedrock, loess and flood plain deposits. Additional work is planned in 2018.

Bio: Dr. Ray Wells

Dr. Wells was a research geologist with the USGS for 40 years, where he used field geology, paleomagnetism, and GPS to understand the tectonic evolution and seismic hazards of active continental margins. He has studied subduction zones around the world to better understand the controls on great megathrust earthquakes and has applied that understanding to the Cascadia convergent margin. Ray is particularly interested in how the oblique component of convergence is partitioned into permanent deformation of the forearc, producing faults, earthquakes, and tectonic rotation of the upper plate. Dr. Wells is the recipient of the Distinguished Service Award of the Department of the Interior and the 2017 recipient of the Geological Society of America's Geologic Mapping Award in honor of Florence Bascom. Recently retired, Ray is a Scientist Emeritus stationed at the USGS Oregon Water Science Center and is a Research Associate with the Geology Department at Portland State University.



Message from the Chair

Thanks to everyone who attended our January joint meeting with ASCE where Keith Mills, PE, GE from the Oregon Water Resources Department presented on *The Geotechnical State of Oregon's Dams*. It was great to continue our annual tradition of combining our two practices and membership with ASCE and really appreciate Keith sharing his knowledge and experience with all of us.

Our upcoming February meeting is scheduled for February 20th back at our usual stomping ground – The Old Market Pub. Ray Wells from the U.S. Geological Survey will present his work on *Large dextral motion on the Gales Creek fault, NW Oregon*. New geologic mapping, gravity and magnetic surveys, and laser terrain mapping (lidar) reveal the Gales Creek Fault (GCF) to be a major right lateral fault in northwest Oregon.

Although the early part of our AEG season seemed relatively quiet on the National level, 2018 has come crashing and banging in with a couple of significant happenings in the first few weeks of the year. First and foremost, as we are all aware, we must be ever vigilant in protecting our professional licensure, which is relentlessly under attack in state legislatures across the country. This includes scouring through bills that may seem innocent but contain aspects that can degrade our responsibilities and qualifications as geologists. Recently, for one reason or another and always from a variety of interest groups with differing motivations, several states are now pushing bills to alter or remove geology licensure – including our very close neighbor to the north, Washington. As always, AEG is taking action but in these cases, it is reaction rather than proactively dissuading the creation of these types of bills. Hopefully, the active bills will be voted down but it is essential we, as members of AEG, are helping to promote and support our practice in Oregon and elsewhere.



Second, as some members may be aware already, AEG is changing Association Management Companies. Offinger Management Company (OMC) is ending its business to all clients. AEG has contracted with AMR Management Services. OMC and AMR are amid a flurry of actions transitioning AEG's records, practices and processes to AMR. Although this will likely cause temporary disruptions and some impacts may be noticed, for the most part none probably will be, except to those directly involved in the National organization management. If you do have any concerns or questions though, feel free to reach out.

Our 61st AEG Annual Meeting / 13th IAEG Congress is scheduled for September 15th to the 23rd, at the Hyatt Regency in San Francisco. Registration is now open - be sure to register today! For meeting information and updates visit www.aegweb.org/SanFrancisco2018 Call for Published Papers is now open. Submit your abstract today!

It's only February making it a great time to remind all current Oregon Chapter members that your memberships expired at the end of the year – unless of course you renewed it. If not, please renew today and encourage fellow students and professionals to become new members! The long-term success of our Chapter and AEG nationally only occurs with the continual growth of membership.



Mark Swank, CEG
AEG Oregon Chapter Chair

"The earth is large and old enough to teach us modesty."

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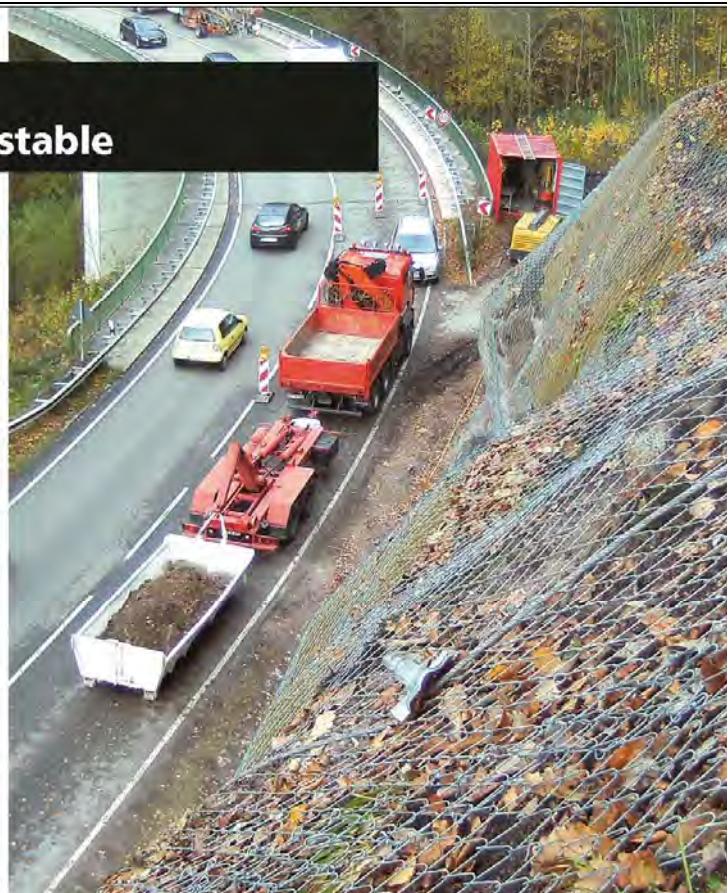
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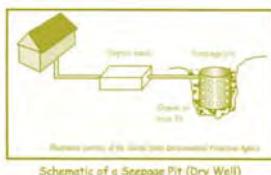


Illustration courtesy of the U.S. Geological Survey, Environmental Science Agency

Schematic of a Seepage Pit (Dry Well)

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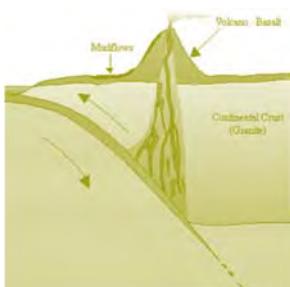
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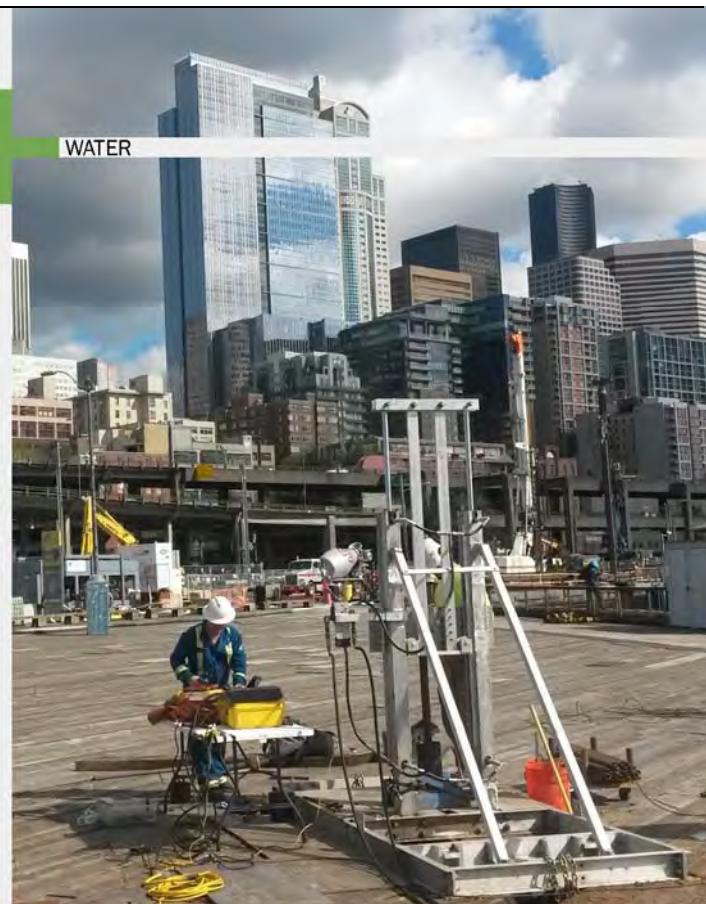
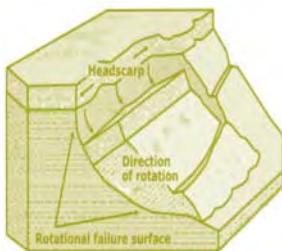
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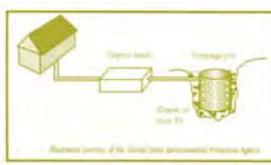
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Schematic of a Seepage Pit (Dry Well)



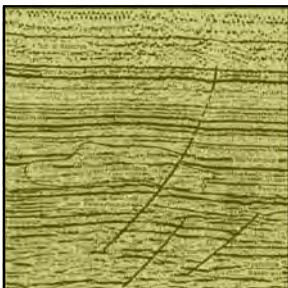
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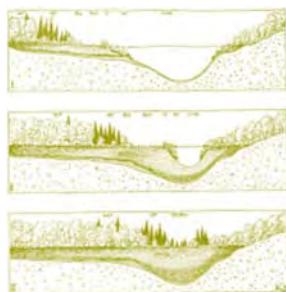
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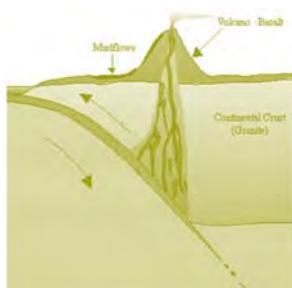
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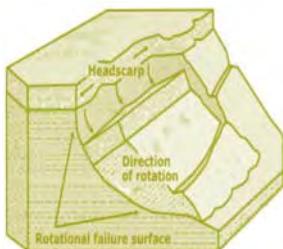
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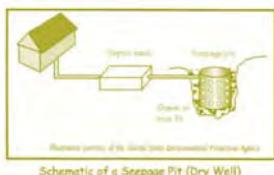
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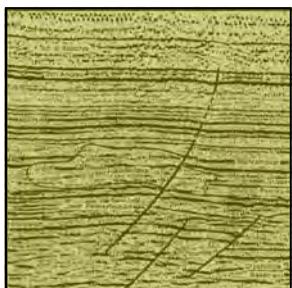
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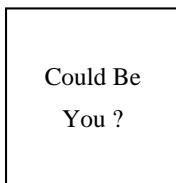
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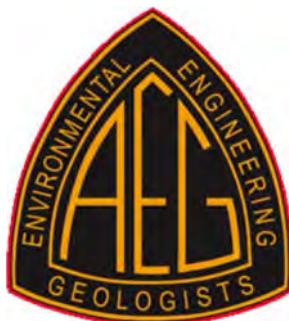
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The AEG Oregon Chapter Newsletter

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