

Improving Hydrogeologic Analysis of Fractured Bedrock Systems

Advances in Field Characterization Methods and Ground Water Modeling

Dates & Locations

June 17 & 18, 2013
Calgary, Alberta

Instructors:

Maureen Muldoon, PhD, PG
University of Wisconsin, Oshkosh

Ken Bradbury, PhD, PG
Wisconsin Geological and
Natural History Survey

Maureen Muldoon is an Associate Professor at the University of Wisconsin Oshkosh with ongoing research in ground water quality and flow in carbonate fractured rock. She was the recipient of the Standards Development Award for her preparation of ASTM D5715-95 Standard Guide for Design of Ground-Water Monitoring Systems in Karst and Fractured-Rock Aquifers.

Ken Bradbury is a hydrogeologist and professor with the Wisconsin Geological and Natural History Survey and the Program Leader of water and environmental programs for the Survey. Ken has authored numerous scientific reports and currently serves as advisor to the Editor of the journal Ground Water. He is a former member of the Water Science and Technology Board of the National Research Council, and is a former Chair of the NRC's committee on water resources research of the U.S. Geological Survey.

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I attended this course prior to beginning a large investigation at a site situated in a complex fractured rock setting. The course was an invaluable aid in planning the design of the components of the intrusive investigation and analysis of the field data. This is the most up-to-date and functional course that I have attended in years.

-S.C. Blauvelt, P.G., Vice President & Director of Regional Operations, Penn E&R, Inc.

Enhance your efficiency, improve your expertise and gain a competitive advantage by mastering hydrogeologic testing, analysis and modeling fractured bedrock, including carbonate, crystalline, and metamorphic rocks.

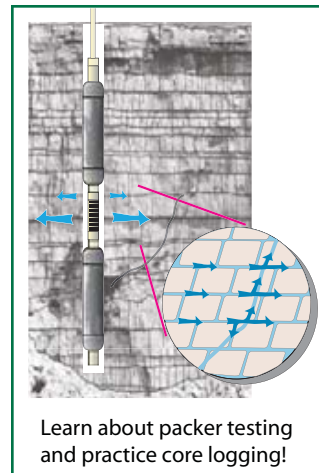
Beginning with the principles of hydrogeologic site characterization, this course addresses recent advances in ground water movement and contaminant transport. It unravels the complexities of fractured systems and fracture characterization methods. Compare different advances in field characterization approaches, aquifer testing, rock core logging procedures, and building conceptual models for groundwater modeling.

Learn and apply solute transport principles for both porous media and fractured bedrock. Learn about newly developed approaches, equipment and software for designing groundwater monitoring systems and remediation systems in fractured systems.

Recent advances in ground water modeling and fracture modeling will be featured during this special course location in Red Deer, Alberta. Join Midwest GeoSciences Group for this course and "Improving the Description and Characterization of Glacial Deposits" on June 12 & 13 for a discounted rate and a free field trip to the Columbia Ice Field!

Learn Recent Trends in Hydrogeologic Characterization and Modeling of Bedrock

- Learn new field techniques for characterizing ground water movement
- Understand rock discontinuities and the nature of fracture flow
- Practice rock core logging for hydrogeologic projects
- Integrate rock stratigraphy into conceptual models and appropriate ground water models
- Learn to develop and integrate dual porosity and discrete fracture conceptual models
- Discover recent advances of surface and borehole geophysics, including dynamic flowmeter test
- Find out how to design and execute tracer tests, single well and packer tests and pumping tests
- Practice preparing potentiometric surface and water table maps using modern principles
- Recognize the do's and don'ts of ground water flow and transport modeling of fractured systems
- Understand contaminant transport and compare various remediation systems in bedrock



Learn about packer testing and practice core logging!

REGISTRATION

Improving Hydrogeologic Analysis of Fractured Bedrock Systems
17 & 18 June 2013

Last Name: _____ First Name: _____

Position: _____

Company: _____

Address: _____

City, State, Zip: _____

Phone: _____

Email: _____

*For early registration, payment must be received before 8 June 2013. Cancellations may be made up to June 1, however 35% of the fee will be charged. Group Rate applies for 5 or more when registering at the same time. Some restrictions apply. No refunds. Questions? Call 763.607.0092 or email info@midwestgeo.com.

Course Fee:

Group Rate Now \$480 USD

Register Now \$780 USD

After June 8 \$980 USD

Check Enclosed

VISA MasterCard AMEX

VISA / MC / AMEX NUMBER

EXP

CARDHOLDER NAME

Purchase Order _____

Mail completed form with payment to:

Midwest GeoSciences Group
6771 County Road 8 SW
Waverly, Minnesota, USA 55390

Or Register On-Line: www.midwestgeo.com