An intensive three-day short course

Assessing Ground Water Movement and Contaminant Migration Through Aquitards

From Investigative Techniques to Hydrogeologic Characterization

May 6, 7, 8, 2008

Location:

Northern Illinois Univ. Extension
- Naperville, Illinois

with field components at:
Fermi National Accelerator Laboratory (Fermilab)

Instructors:

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

Paul Kesich
Fermi National Accelerator Laboratory

Tim Kemmis, PhD, PG
Earth Tech, Inc.

Dave Hart, PhD, PG
Wisconsin Geological & Natural History Survey

Madeline Gotkowitz
Wisconsin Geological & Natural History Survey

Mark Adamski, PG
BP America

Mark Borchardt, PhD
Marshfield Medical Research Foundation

Dan Kelleher, PG
Earth Tech, inc.

Apply this course to any aquitard setting. Test aquitard integrity in a variety of geologic conditions during the field component at Fermilab.

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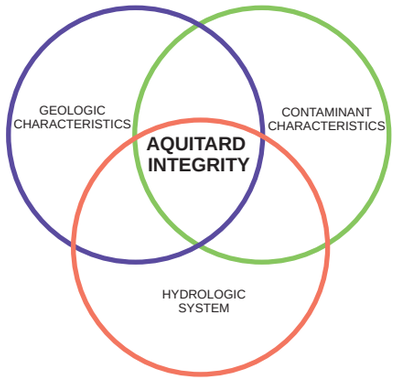
Aquitards (low-hydraulic conductivity hydrogeologic units) are critically important to ground-water and contaminant movement. Characterizing aquitards for environmental and water resource projects is important for protecting deep aquifers and understanding potential contaminant pathways for previously impacted aquifers. Both unconsolidated and bedrock aquitards share inherent low hydraulic conductivities, but approaches and field methods for characterizing each type can be completely different. Appropriate characterization requires site-specific understanding about the aquitard's origin, unit distribution, heterogeneity, fracturing, and the effects of secondary weathering or tectonics. From basic hydraulics to comprehensive fracture analysis, this course addresses the practical aspects of compehensive hydrogeologic analysis for ***environmental, engineering and water resources projects***.

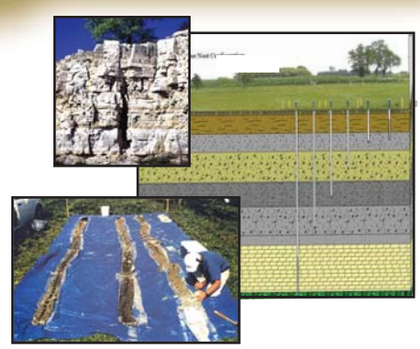


Learn Up-To-Date Methods for Investigating & Characterizing Aquitards

- Improve your characterization of ground water movement & contaminant migration through aquitards by gaining a better understanding of aquitard hydraulics, vertical seepage, confining conditions and more
- Discover the importance of differentiating a sequence of low hydraulic conductivity units
- Discover new techniques and field instrumentation for monitoring aquitards
- Compare water sampling and slug test procedures in low hydraulic conductivity units
- Identify and characterize fractures from an angle boring using continuous rotasonic sampling
- Examine a regional bedrock aquitard and understand fracture distribution and mapping
- Explore new approaches for ground water and solute transport modeling in aquitards
- Gain better understanding about petroleum contamination in weathering zones within fine-grained sediments
- Understand the potential for pathogenic virus contamination in deep aquifers thought to be protected by overlying aquitards

Fractures in Aquitards Workshop: Professionals use a variety of techniques to identify and characterize fractures, macropores, and other discontinuities in aquitards. Share your successes and ideas during a special workshop session.

This course features the most up-to-date information and procedures on petroleum (LNAPL) subsurface behavior, distribution and recoverability in fine-grained sediments. We will also cover recent advances in pathogenic virus contamination discovered in deep aquifers where the procedures for identifying, sampling, sample transport and lab testing is continually being updated and improved. Join us in May for this unique one-of-a-kind course.



24 Contact Hours
2.4 Continuing Education Units (CEUs)

NORTHERN ILLINOIS UNIVERSITY

REGISTRATION FORM

Assessing Ground Water Movement and Contaminant Migration Through Aquitards: From Investigative Techniques to Hydrogeologic Characterization
May 6, 7, 8, 2008

Last Name: _____ First Name: _____

Position: _____

Company: _____

Address: _____

City, State, Zip: _____

Phone: _____

Email: _____

*For early registration discount, registration must be received before 04/26/08. Cancellations may be made up to April 21, however 25% of the fee will be charged. No refunds. Registration is accepted on a first come, first served basis. Minimum registration of 25 people must be registered at early registration deadline to conduct this course. Questions? Call 763.607.0092 or email **info@midwestgeo.com.**

Course Fee:

Register Now $980.00
After April 26 ..... $1,295.00

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Mail completed form with payment to: Midwest GeoSciences Group
6771 County Road 8 SW
Waverly, Minnesota 55390

Or Register On-Line: www.midwestgeo.com