An intensive two-day short course

Aquifer Testing Techniques for Improved Hydrogeologic Site Characterization

Featuring AQTESOLV™ and the *In-Situ* Level TROLL®

Oct. 8 & 9, 2014

In-Situ, Inc
Fort Collins, Colorado

Instructors:

Jim Butler, PhD, PG
Kansas Geological Survey and
Past NGWA Darcy Lecturer

Glenn Duffield
HydroSOLVE, Inc. and
Author of AQTESOLV

Jim Butler is author of "The Design, Performance, and Analysis of Slug Tests" (Lewis Pub., 1998) and the 2007 National Ground Water Association Distinguished Darcy Lecturer. For the last 26 years, he has worked as a research scientist at the Kansas Geological Survey. He holds a M.S. and Ph.D. in Applied Hydrogeology from Stanford University. Jim also serves as a consulting hydrogeologist and is currently an associate editor of the journal of Ground Water.

Glenn Duffield is a hydrogeologist and the president of HydroSOLVE, Inc., with over 25 years of consulting experience in groundwater flow and transport modeling, software development and aquifer test analysis. He is currently an associate editor of Ground Water and the author of AQTESOLV, which for over 23 years has been the world's leading software for the analysis of aquifer tests.

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www.midwestgeo.com

Conducting aquifer tests in complex hydrogeologic settings such as heterogeneous or fractured media is a key element to site characterization, water resources assessment and remediation system design. However poorly planned aquifer testing programs often lead to suspect data or unanswered questions after the field work is complete. Even when you are confident of the geologic conditions, you may have difficulty designing effective aquifer tests, running field equipment or selecting the best available model to analyze the test data. Where can you turn to improve your approach and skills for aquifer testing?

Midwest GeoSciences Group can help! We have designed a powerful two-day training course on aquifer testing design, field methods and data analysis techniques featuring AQTESOLV and the In-Situ Level TROLL. This course will provide you with the knowledge to master aquifer testing from beginning to end - using world class field equipment and aquifer test software.

This course will teach you state-of-the-art methods and procedures for designing, conducting, and analyzing aquifer tests. You will gain the following benefits from the course:

Master State-of-the-Art Field and Analysis Procedures

- Learn to design the most effective aquifer test programs for a wide range of geologic conditions (including low permeability confining units and fractured bedrock)
- Gain an advantage during your next aquifer test by mastering new field and data analysis procedures
- Find out how to differentiate laterally extensive sands from isolated sand bodies
- Discover new techniques for anticipating and resolving problems that may arise in aquifer tests
- Obtain step-by-step instruction for field screening using AQTESOLV computerized analysis

Learn Up-To-Date Slug Testing Procedures

- Learn to select and apply appropriate slug test models for different hydrogeologic settings and well configurations
- Maximize results from tests conducted in wells screened across the water table
- Find out how to recognize and account for the effects of noninstantaneous (noisy) test initiation and wellbore skin
- Discover the latest strategies for designing, conducting and analyzing tests in high-K media including oscillatory responses
- Gain knowledge of new approaches for decreasing test duration in low-K media

Discover Recent Advances in Pumping Test Methods

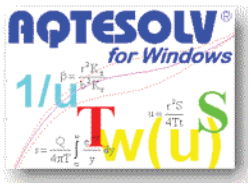
- Learn to design, conduct and analyze pumping tests in confined, leaky, unconfined and fractured aquifers
- Master strategies for dealing with variable pumping rates, wellbore storage, partial penetration, well losses, wellbore skin and other common issues
- Discover diagnostic methods including derivative analysis that help you select appropriate pumping test models
- Gain an advantage by applying Agarwal's method for analysis of recovery data
- Find out the best procedures for monitoring a pumping test with the In-Situ, Inc. Level TROLL
- Master tips and tricks for using AQTESOLV to analyze constant-rate, step-drawdown and recovery tests

COLORADO SCHOOL OF MINES
16 Contact Hours
(1.6 CEUs)

CEU Certificate Optional

BRING YOUR COMPUTER

Analyze data from a variety of hydrogeologic conditions and well configurations using AQTESOLV. Participants may bring their own project data for analysis for QA/QC by the instructors.



Advanced registration is necessary for participation in this limited-enrollment short course. Pre-registration is required to reserve space and receive course materials. A confirmation letter and map will be sent within 10 days following your course registration.

Accommodations at Hilton Fort Collins (until September 6, 2014). Daily shuttle is provided by hotel. See reverse for details about hotel and ground transportation.

REGISTRATION

Aquifer Testing Techniques for Improved Hydrogeologic Site Chracterzation Featuring AQTESOLV and the In-Situ LEVEL TROLL
October 8 & 9, 2014

Last Name: _____ First Name: _____

Position: _____

Company: _____

Address: _____

City, State, Postal Code: _____

Phone: _____

Email: _____

Course Fee:

Register Now $750.00
After Sept 13 ..... $850.00

☐ *Check Enclosed*
☐ *VISA* ☐ *MasterCard*

VISA / MC NUMBER _____ EXP _____

CARDHOLDER NAME _____

☐ *Purchase Order* _____

Mail completed form with payment to: In-Situ, Inc.
221 East Lincoln Avenue
Ft. Collins, Colorado 80524

Or On-Line: www.midwestgeo.com

*For early registration, payment must be received before September 13, 2014. Cancellations may be made up to October 1st, however 35% of the fee will be charged. No refunds. Maximum number of 40 registrations for this course. Payments processed by In-Situ, Inc. Course location is the MAIN TRAINING ROOM at the headquarters of In-Situ, Inc located on Lincoln Avenue in Fort Collins, Colorado. Questions? Call Customer Service at 763.607.0092 or email **service @ midwestgeo.com.**

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www.midwestgeo.com
6771 County Road 8 SW
Waverly, Minnesota 55390

October 8 & 9, 2014

In-Situ, Inc. Headquarters
Ft. Collins, Colorado

Quotes from participants of past courses:

These are the guys who literally wrote the book -- excellent course, very helpful, and cutting edge.
- Paul Blumbaugh, Michael Pisani & Associates, Inc.

Very good presenters. Clear, good examples. Relate to reality.
- Christian Nagel, Stantec Consulting, Ltd.

High quality class with top instructors. Especially enjoyed the diagnostic aspect of AQTESOLV (software).
- Michael Blazeric, Wildermuth Environmental, Inc.

Excellent in all aspects.
- Nathan Littlewood, Origin Energy Brisbane

The course is very thorough and the instruction followed by worked examples are an excellent format. I loved the problem sets and the time allowed both before and after the workshop to go through the problems with the instructors. If you take advantage of that time (and I did, both ends!), you basically are getting one-on-one instruction from the gurus. That was amazing and well worth it!
- Lynn D. Green, R.G., L.E.G., EVREN Northwest, Inc.

Venue and Accommodations

We chose the In-Situ, Inc, headquarters for this course location so you can see and experience the place where the most widely used aquifer testing field equipment is developed and manufactured.

In-Situ, Inc. Headquarters is located in Ft. Collins, CO which is approximately 55 miles north of Denver and 35 miles from *Rocky Mountain National Park*.

A block of rooms is reserved at the HILTON Fort Collins until September 18th. Mention "In-Situ / MidwestGeo" to receive the guaranteed rate of $115/night. Upgrades are available for extra fee.

HILTON - Fort Collins
425 W. Prospect
Fort Collins, CO 80526
Phone: 1-970-482-2626
Fax: 1-970-493-6265
www.hiltonfortcollins.com

More options online.

Ground Transportation

If you are flying to Denver, you can arrange ground transportation to Ft. Collins via various express shuttle services. The one-way rate for the SuperShuttle - Airport Express service is less than $50.

SuperShuttle Airport Express
Call 800-258-3826
http://www.supershuttle.com

Daily ground transportation to the course from the HILTON Fort Collins will be provided by the hotel. Call ahead to reserve space.

Course affiliates are not responsible for ticketing or expenses.

Registration

Advance registration is necessary in this limited-enrollment workshop to reserve space and receive course materials. A confirmation letter will be sent within 10 days of registering for the course.

Registration is accepted on a first come, first served basis. Special arrangements for diet, equipment, or handicap facilities should be indicated when registering for the course.

What You Will Receive

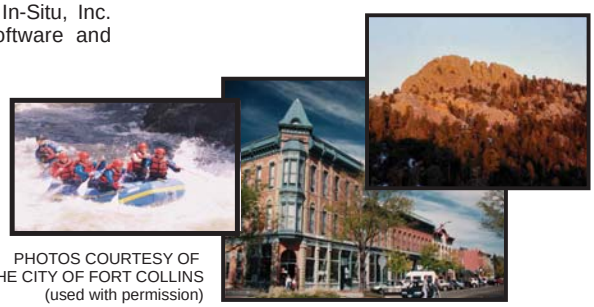
You will receive 16.0 contact hours of instruction, a Course Notebook, a *Field Guide for Slug Testing* and a *Field Guide for Soil and Stratigraphic Analysis* by Midwest GeoSciences Group. Full color notebooks and discounted FG Slug Testing are available as an option only during pre-registration.

Continental breakfast, morning coffee break, lunch, and an afternoon break will be served with the course. Recording devices are not permitted during classroom sessions.

Personalized tour of the In-Situ, Inc. facility. See where our favorite equipment is developed and manufactured!

Special discount voucher for In-Situ, Inc. products and AQTESOLV software and upgrades.

Private reception at the end of Day One. Plan for the event and use the hotel shuttle for transportation to and from the reception. It will be fun!



PHOTOS COURTESY OF
THE CITY OF FORT COLLINS
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Cancellation Policy

Cancellations may be made up to Sept 13, however, 35 percent of the course fee will be charged and you are issued a credit toward future courses. No refunds. One substitute is allowed for each registrant who is unable to attend.

Continuing Education Units

Continuing Education Units (CEUs) and a Course Completion Certificate will be administered by the Colorado School of Mines as an option for $40 per person. Certificates from CSM are not included in the course fee.

Most state professional licensure programs accept CEUs for this course.

What to Bring

Bring your laptop computer, a calculator and any field forms that you normally use for aquifer testing. You are also encouraged to bring your own slug and pumping test data. Instructors will QA/QC your analysis results if time permits.

Course attendees bringing personal laptops will download and install the AQTESOLV demo from www.aqtesolv.com before arriving at the course.