



The Northwest Environmental Training Center presents:

Applied Hydrogeologic Site Characterization & Monitoring Well Construction for Environmental Professionals

Course ID: GHYD-401
 May 13-15, 2008, 8:30 A.M. to 5 P.M.
 Hilton Garden Inn - Austin Downtown
 500 North Interstate 35
 Austin, Texas 78701

Instructor: Rick G. Graff

Description: This three day training course is intended to introduce environmental professionals to Applied Hydrogeologic principles and prepare the attendee to manage and develop Site Characterization activities. These principles will be presented by the trainer in a clear manner to students who have little to no previous knowledge of hydrogeology. Conceptual real-world discussions and visual aids will help in dispelling common misconceptions of groundwater. Hands on exercises will allow the student to apply this conceptual understanding to practical use. In-class exercises will include calculating hydraulic gradient, flow direction, flow volume, and flow velocity; water table contouring, designing monitoring wells, constructing geologic profiles from well logs, and investigating contaminated sites based on case study data. The course is structured in a manner that the student will be able to understand hydrogeologic reports, prepare work plans and implement field studies. The attendee will further understand regional groundwater hydrology and how it relates to their local environment. The class is intended for environmental professionals who are not hydrogeologists, but would benefit from a practical understanding of environmental hydrogeology.

About the Instructor: Rick has over 23 years of experience as a Water Resources Geologist providing pragmatic solutions to water resource and environmental issues for private and public sector clients. This experience has included hydrogeological site characterizations at many locations throughout North America. He also has extensive experience with water supply studies for agricultural, municipal and domestic water users. Rick is well versed with federal, state and local regulations including CWA, SDWA, RCRA, CERCLA, water rights, and growth management requirements.

Course Topics:

Introduction

- Course outline
- Overview of groundwater resources
- Common misconceptions
- Relevant/Complimentary disciplines
- Significant need for students
- Supporting documents

Groundwater Hydrology

- Occurrence, movement and quality
- Global perspective and world supplies
- Rocks and water bearing strata
- Hydrologic Cycle
- Porosity, aquifers and confining units

Groundwater Hydrology (continued)

- Saturated, unsaturated zones
- Specific yield, retention
- Heads, gradients and velocity
- Darcy's Law
- Hydraulic conductivity
- Groundwater flow systems
- Capillary fringe, unsaturated flow
- Transmissivity
- Storage Coefficient
- Cone of depression
- Potentiometric surface
- Aquifer tests and analysis
- Time/distance drawdown
- Aquifer boundaries
- Well design and construction

Intended Audience: Course attendees would include scientist, technicians and well owners. Further, the general public could gain pertinent knowledge local water resource issues and protection of the resource.

After completing this course, participants will be able to:

Design monitoring wells for contaminant delineation
Review Hydrogeologic reports
Understand elementary pumping tests
Prepare work plans for groundwater field studies
Take a further advanced groundwater classes

Prerequisites: A basic understanding of hydrologic and chemical processes is required.

Course Materials: Attendees will receive a binder containing workshop proceedings and reference material.

Continuing Education Units: 2.0

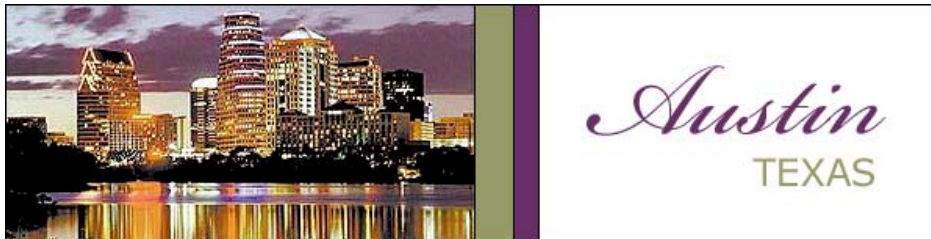
What to Bring: Pen or pencil, coffee mug, and a water bottle (to reduce waste). Please wear comfortable clothes appropriate for the prevailing weather. Drinks and snacks will be provided each day. Lunch on your own.

Registration: \$595 (*\$495 reduced tuition is available for Native American tribes; government employees; nonprofits; students; and NAEP, NEBC, NWAEP members). You may register via the link below or by calling the Northwest Environmental Training Center at 206-762-1976.

Cancellation Policy: Registration fees are fully refundable up to 30 days prior to the event and 50 percent refundable (or 100% credit) thereafter up to the day prior to the event. Registration may occur up to the day prior to the event provided that space is available.

Northwest Environmental Training Center

A nonprofit 501(c)(3) program of the Northwest Environmental Education Council
650 S. Orcas Street, Suite 220, Seattle, Washington 98108
Phone: (206)762-1976, Fax: (206)762-1979
www.nwetc.org



Directions to:

Hilton Garden Inn - Austin Downtown

(Workshop Location)

500 North I H 35 (downtown), Austin, Texas 78701
(512) 480-8181, www.hiltongardeninn.com

Austin Regional Public Transit: <http://www.capmetro.org>

FROM AUSTIN-BERGSTROM INTERNATIONAL AIRPORT (AUS)

Start out going WEST on PRESIDENTIAL BLVD
Keep LEFT at the fork to continue on PRESIDENTIAL BLVD
Keep RIGHT at the fork to continue on PRESIDENTIAL BLVD
PRESIDENTIAL BLVD becomes CARDINAL LOOP
Turn LEFT onto BASTROP HW / TX-71 E
Merge onto TX-71 W
Keep RIGHT at the fork to go on E BEN WHITE BLVD / BEN WHITE BLVD E / TX-71 W
Turn SLIGHT RIGHT onto S I-35
Merge onto I-35 N / US-290 E / US-81 N
Take EXIT 234C toward 6TH-12TH STREETS
Turn SLIGHT LEFT onto I-35 N
Turn LEFT onto E 8TH STREET
Turn LEFT onto I-35 N
End at 500 North Interstate 35

FROM POINTS NORTH (via I-35 S)

From I-35 S / US-81 S
Take EXIT 234B toward 8TH-3RD STREETS
Turn SLIGHT LEFT onto I-35 N
End at 500 North Interstate 35

FROM POINTS SOUTH (via I-35 N)

From I-35 N / US-81 N
Take EXIT 234C toward 6TH-12TH STREETS
Turn SLIGHT LEFT onto I-35N
Turn LEFT onto E 8TH STREET
Turn LEFT onto I-35 N
End at 500 North Interstate 35

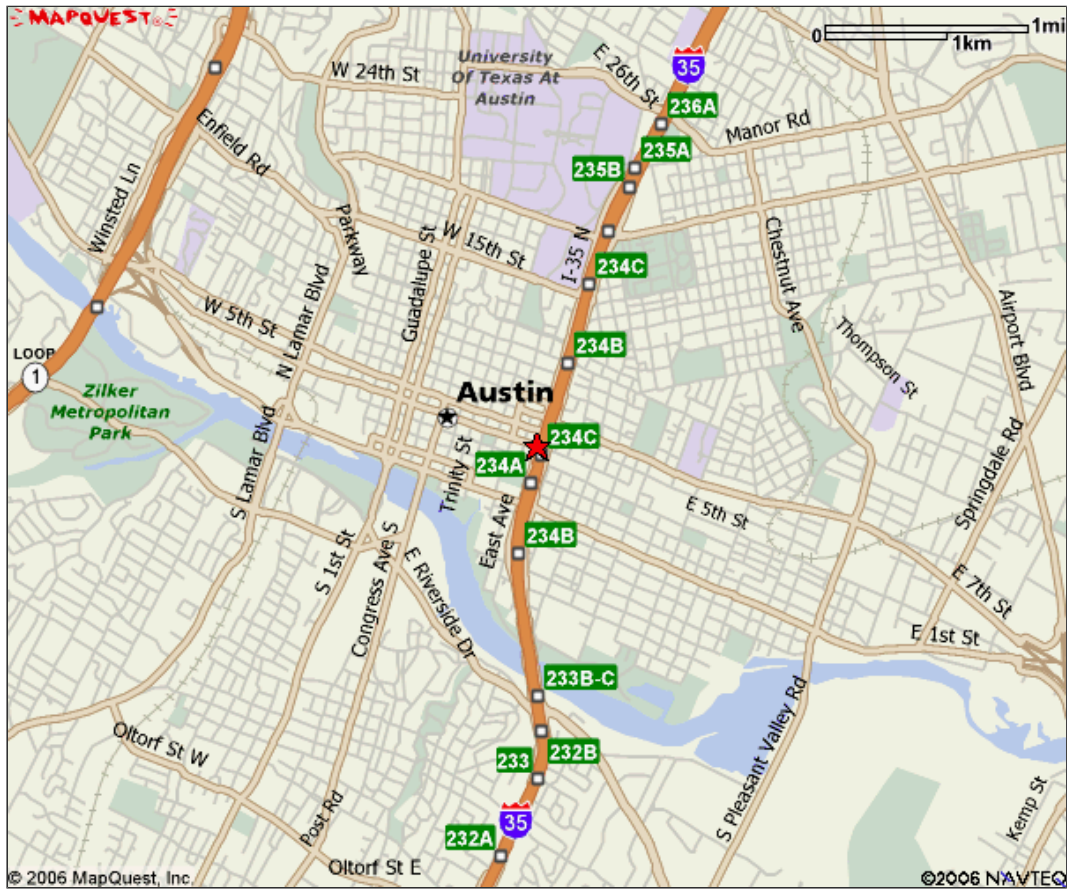
FROM POINTS WEST (via I-10 E)

From I-10 E
Merge onto US-290 E via EXIT 477 toward FREDRICKSBURG
Stay STRAIGHT to go onto US-281 S / US-290 E
Turn SLIGHT LEFT onto US-290 E
Merge onto US-290 E / TX-71 E
Merge onto I-35 N / US-290 E / US-81 N toward WACO
Take EXIT 234C toward 6TH - 12TH STREETS
Turn SLIGHT LEFT onto I-35 N
Turn LEFT onto E 8TH STREET
Turn LEFT onto I-35 N
End at 500 North Interstate 35

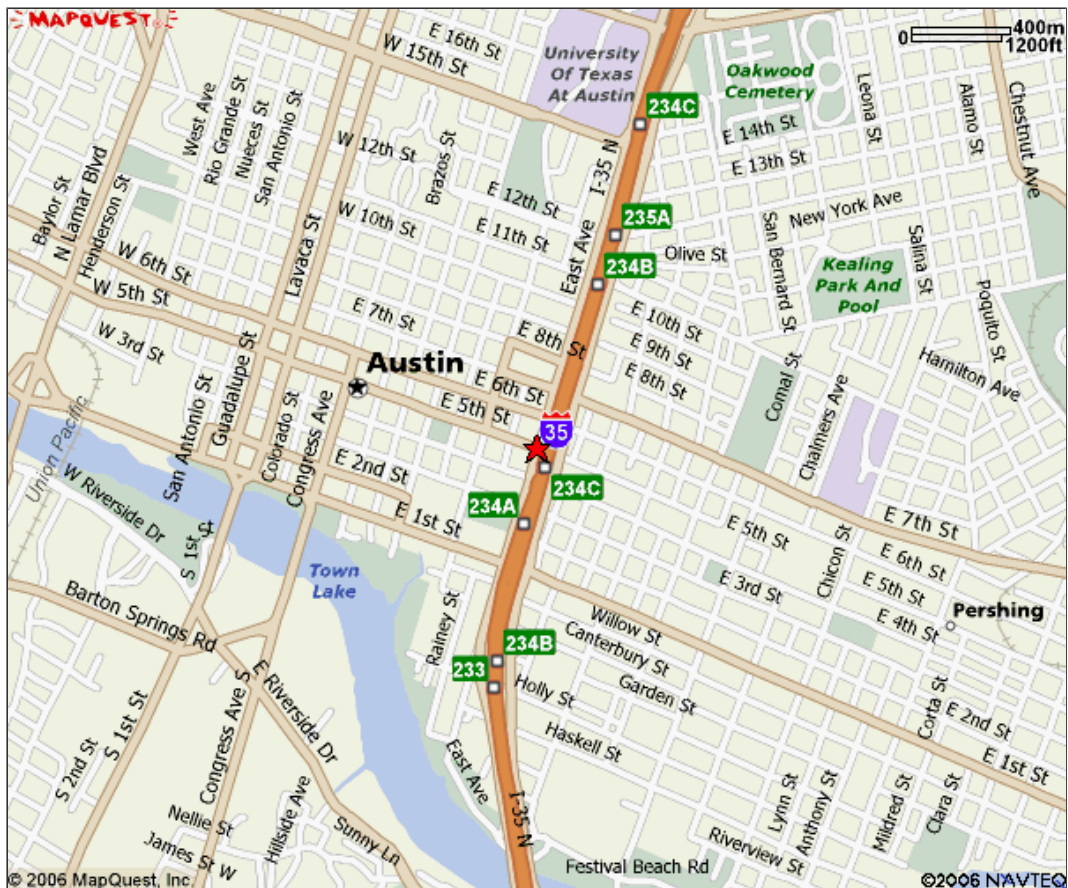
FROM POINTS EAST (via I-10 W)

From I-10 W
Merge onto TX-71 W via EXIT 695 toward LA GRANGE / AUSTIN
Keep RIGHT at the fork to go on E BEN WHITE BLVD / BEN WHITE BLVD E / TX-71 W
Turn SLIGHT RIGHT onto S I-35
Merge onto I-35 N / US-290 E / US-81 N
Take EXIT 234C toward 6TH-12TH STREETS
Turn SLIGHT LEFT onto I-35 N
Turn LEFT onto E 8TH STREET
Turn LEFT onto I-35 N
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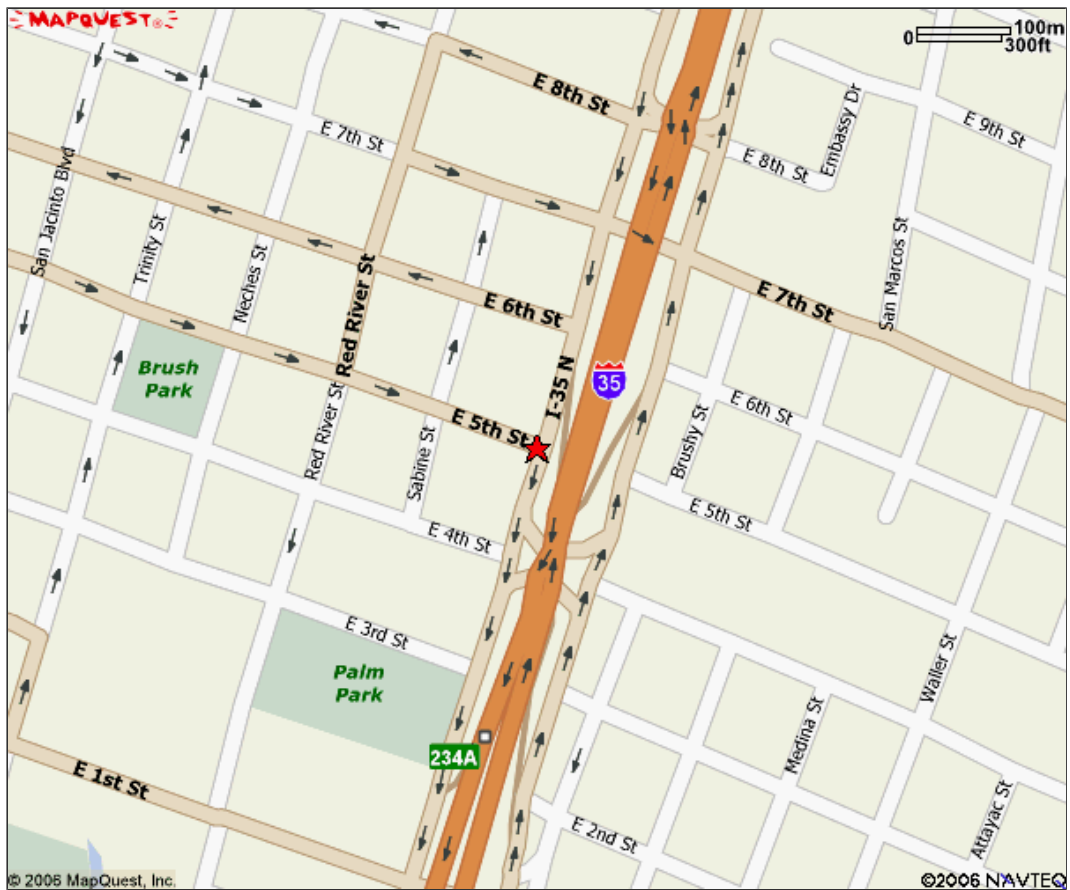
REGIONAL MAP:



CITY MAP:



STREET MAP:



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Austin, TX | ACCOMMODATIONS near the Hilton Garden Inn - Austin Downtown

Hilton Garden Inn - Austin Downtown

(Workshop Location)

500 North Interstate 35 (downtown)

Austin, Texas 78701

(512) 480-8181

www.hiltongardeninn.com

<p>Hilton Austin 500 East 4th Street Austin, TX</p> <p>www.hilton.com</p>	<p>(512) 482-8000</p>	<p>Residence Inn Austin Downtown 300 East 4th Street Austin, TX</p> <p>www.marriott.com/ausrd</p>	<p>(512) 472-5553</p>
<p>Courtyard Marriott Downtown 300 East 4th Street Austin, TX</p> <p>www.marriott.com/auscd</p>	<p>(512) 236-8008</p>	<p>Omni Austin Hotel Downtown 700 San Jacinto Blvd Austin, TX</p> <p>www.omnihotels.com</p>	<p>(512) 476-3700</p>
<p>Hampton Inn & Suites Austin 200 San Jacinto Blvd Austin, TX</p> <p>www.hamptoninn.com</p>	<p>(512) 472-1500</p>	<p>Driskill Hotel 604 Brazos Street Austin, TX</p> <p>www.driskillhotel.com</p>	<p>(512) 474-5911</p>
<p>Four Seasons Hotel Austin 98 San Jacinto Blvd Austin, TX</p> <p>www.fourseasons.com</p>	<p>(512) 478-4500</p>	<p>Intercontinental Austin 701 Congress Avenue Austin, TX</p> <p>austin.intercontinental.com</p>	<p>(512) 457-8800</p>

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NORTHWEST ENVIRONMENTAL TRAINING CENTER

650 S Orcas Street, Suite 220, Seattle, Washington 98108
Ph: (206)762-1976, Fax: (206)762-1979
www.nwetc.org

REGISTRATION FORM

Name: _____ Today's Date: _____

Agency/Organization: _____

Street Address: _____ Mail Code: _____

Street Address (cont.): _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

Email: _____ Title: _____

Course:

Applied Hydrogeologic Site Characterization & Monitoring Well Construction _____

Course ID: GHYD-401, May 13-15, 2008

Hilton Garden Inn - Austin Downtown

500 North IH 35, Austin, Texas

Registration: \$595. \$495 reduced rates for Native American Tribes; nonprofits; government; students; and NEBC members.

Payment Method: Check PO Credit Card (Visa or Mastercard) Total: \$ _____

Credit Card or PO #: _____ Exp: _____

Note: Please make checks payable to Northwest Environmental Training Center.

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