



The Northwest Environmental Training Center presents:

Applied Hydrogeologic Site Characterization & Monitoring Well Construction for Environmental Professionals

Course ID: GHYD-401
 September 3 - 5, 2008, 8:30 A.M. to 5 P.M.
 Anchorage Federal Building
 222 West 7th Avenue, Main Floor Room 154
 Anchorage, AK 99501

Instructors: 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: 1.3

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 3 business days prior to the event. No refunds are issued for cancellations occurring less than 3 business days before the start day. Course registration fees and cancellation policy are subject to change without notice.

Disability Accommodations: To request disability accommodations, please contact us at info@nwetc.org or (206) 762-1976 at least 30 days prior to the event.

Northwest Environmental Training Center

A nonprofit 501(c)(3) program of the Northwest Environmental Education Council
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