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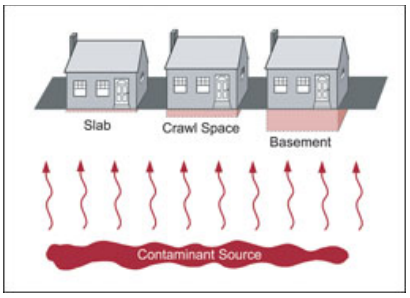
ENVIRONMENTAL GEOSCIENCE



The Vapor Intrusion Risk Pathway: A Practical Guide Classroom Training – 2 Day Course

Hartman Environmental Geoscience will be providing a comprehensive and practical training class for the Missouri DNR in Jefferson City in July 2014. The course is open to regulators from other States and to all non-regulatory environmental professionals on how to understand and assess the vapor intrusion pathway. The course is highly interactive with numerous class exercises from real sites and in-field demonstrations on sampling methods. A topic outline follows on the following page. The course will include presentations by Missouri DNR representative on the agency's vapor intrusion guidance/policy. Note: space is limited.

Course Date: Wednesday July 9 and Thursday July 10, 2014

Location: 1730 East Elm Street, Jefferson City, MO 65101
Bennett Springs and Roaring River conference rooms

Pricing: Prior to June 9: $450 if by check; $495 if by credit card (VISA) or PayPal
After June 9: $550 if by check; $595 if by credit card (VISA) or PayPal

Instructors: Dr. Blayne Hartman and at least 2 additional instructors

Registration:

By Check: Send e-mail to: blayne@hartmaneg.com or
Call Hartman Environmental Geoscience (858) 204-6170

By Credit Card: Call Hartman Environmental Geoscience (858) 204-6170 or
Go to www.hartmaneg.com; Payment Page

By PayPal: Go to www.hartmaneg.com; Payment Page

Certificates of Course Attendance: Will be given for 14 hours of instruction

Want More Information? Contact Dr. Blayne Hartman at blayne@hartmaneg.com

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TOPIC LIST/COURSE OUTLINE:

♦ OVERVIEW OF VAPOR INTRUSION

- What is it?
- Why do You Care About it?
- When Should You Care About It?
- At What Sites/Conditions Need You care About It?

♦ REVIEW OF FEDERAL & STATE GUIDANCES

- EPA OSWER
- EPA-OUST
- ITRC & ASTM
- Updates on Missouri VI Guidance (by representatives from Missouri DNR)

♦ SOME KEY PRINCIPLES

- Units
- Partitioning (Henry's Constants & How to Use them).
- Transport Through the Vadose Zone (Diffusion & Advection)
- Site Conceptual Models
- Attenuation Factors. What are they? How to Use Them?
- Risk Basics

♦ METHODS TO ASSESS VAPOR INTRUSION

- Indoor Air Measurement
- Modeling
- Direct Measurement of Flux (Flux Chambers)
- Supplemental Investigatory Tools

♦ SOIL GAS SAMPLING & ANALYSIS METHODS

- An Overview of Soil Gas Methods
- Details of Active Soil Gas Surveys

♦ MITIGATION

- A Review of the Various Methods
- Cost Effective System Design Considerations

♦ CASE HISTORIES

- Fuels Site
- Chlorinated Solvent Site

♦ FIELD DEMOS

- Exterior Soil Gas Sampling
- Sub-slab Soil Gas Sampling