



## An ITRC 2-Day Training Course

# Petroleum Vapor

## Intrusion: Fundamentals of Screening, Investigation, and Management

Petroleum vapor intrusion is the process by which volatile petroleum hydrocarbons released as vapors from light nonaqueous phase liquids (LNAPL), petroleum-contaminated soils, or petroleum-contaminated groundwater migrate through the vadose zone and into overlying buildings. Fortunately, this migration is often limited by microorganisms that are normally present in soil. The organisms consume these chemicals, reducing them to nontoxic end products through the process of biodegradation. The ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014;

<http://www.itrcweb.org/PetroleumVI-Guidance/>) and associated training provide a comprehensive methodology for screening, investigating, and managing potential PVI sites and is intended to promote the efficient use of resources and increase confidence in decision making when evaluating the potential for vapor intrusion at petroleum-contaminated sites. By using the ITRC guidance document, the vapor intrusion pathway can be eliminated from further investigation at many sites where soil or groundwater is contaminated with petroleum hydrocarbons or where LNAPL is present. This 2-day ITRC classroom training led by internationally recognized experts should enable you to:



- ▶ Develop on-the-job skills to screen-out petroleum sites based on the scientifically-supported ITRC strategy and checklist
- ▶ Focus the limited resources investigating those PVI sites that truly represent an unacceptable risk
- ▶ Communicate ITRC PVI strategy and justify science-based decisions to management, clients, and the public
- ▶ Understand the essential principles of biodegradation and the fundamentals of vapor movement through the vadose zone
- ▶ Appreciate the important role of modeling in the investigation of petroleum sites
- ▶ Recognize the extensive options for investigating and mitigating PVI sites

Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. You will also have the opportunity to network with other environmental professionals.

### Class Date & Location:

**November 9-10, 2016**  
**in Framingham, MA**  
Sheraton Framingham Hotel  
& Conference Center



in cooperation with:

**Massachusetts**  
**Department of**  
**Environmental Protection and Northeast**  
**Waste Management Officials' Association**



### Course Outline & Agenda

#### Day 1

**7:00 a.m.–8:00 a.m.**

- ▶ Participant check in

**8:00 a.m.–5:00 p.m.**

- ▶ Fundamentals
- ▶ Site Screening
- ▶ Site Investigation

#### Day 2

**8:00 a.m.–5:00 p.m.**

- ▶ Modeling
- ▶ Application Exercises
- ▶ Vapor Control and Site Management

### Registration Instructions

To register, go to [www.itrcweb.org/training](http://www.itrcweb.org/training) and select the registration button associated with the class of interest. Follow the instructions to register and provide payment (if required). If you have questions after viewing the online registration information, please contact the **ITRC Training Program at (402) 201-2419 or [training@itrcweb.org](mailto:training@itrcweb.org)**.

### ITRC and EPA PVI Guidance:

- ▶ *ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014)*  
[www.itrcweb.org/PetroleumVI-Guidance/](http://www.itrcweb.org/PetroleumVI-Guidance/)
- ▶ *EPA Technical Guide For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites (2015)*  
[www.epa.gov/ust/petroleum-vapor-intrusion](http://www.epa.gov/ust/petroleum-vapor-intrusion)

The ITRC guidance document and EPA guide are complementary documents with the ITRC training course providing the “how-to” knowledge and skills for screening, investigating, and managing the petroleum vapor intrusion pathway.

## Course Trainers (Trainers vary by class)

**John Boyer** *New Jersey Department of Environmental Protection, Trenton, New Jersey.*  
Technical co-Lead for ITRC's VI Project and Principal in developing vapor intrusion policy for NJDEP

**Matt Williams** *Michigan Dept. of Environmental Quality, Lansing, Michigan.* Develops and implements methods used to investigate and assess vapor intrusion issues; Serves as primary vapor intrusion state contact

**Willie McKercher, P.E.** *Mississippi Department of Environmental Quality, Jackson, Mississippi.* Primary point of contact at MDEQ for Vapor Intrusion issues

**Lila Beckley** *GSI Environmental Inc., Austin, Texas.* Specializing in vapor intrusion and regulatory support

**Matt Lahvis, Ph.D.** *Shell, Houston, TX.* Published extensively on vapor transport in the unsaturated zone

**Bill Morris** *Vapor Mitigation Sciences, Glendale, Arizona.* Specializes in building evaluations, vapor mitigation design and installation

**Eric Nichols, P.E.** *Substrata, Newfields, New Hampshire.* Technical resource for LNAPL and petroleum vapor intrusion

**Rich Rago** *Haley & Aldrich, Rocky Hill, Connecticut.* Support for numerous state and federal vapor intrusion guidance and analytical data quality documents

**Catherine Regan, P.E.** *ERM, Boston, Massachusetts.* Assessment and management of residential and industrial vapor intrusion investigations

**Todd Ririe, Ph.D., P.G.** *BP, La Palma, California.* Environmental technical specialist with BP's remediation and engineering technology group

**Tom Walker, P.G.** *US EPA, Washington, DC.* Environmental Protection Specialist with the Office of Underground Storage Tanks

## Who should attend?

Regulatory staff involved in the management of petroleum contaminated sites, site owners, consultants, public stakeholders, and others interested in using a science-based approach to screen-out sites for the petroleum vapor intrusion pathway and focus resources on those sites that truly represent at risk.

## Registration Fee

The course fee is \$950 (with early bird fee of \$750 until October 21). Registrants from organizations that are members of the ITRC Industry Affiliates Program are eligible for a discounted registration fee. **Note:** For U.S. local, state, and federal government, students, community stakeholders, and tribal representatives, ITRC will offer a limited number of scholarships. More information is available at [www.itrcweb.org/training](http://www.itrcweb.org/training).

**Cancellations:** If you must cancel and notify us on or before October 12, the registration fee will be refunded (Note: a \$100 processing fee will apply).

## Continuing Education Information

A certificate of participation will be provided to interested participants. Please check with your organization or appropriate licensing board for their requirements and if they will accept this ITRC training course. More information is on the registration page, including information for CT LEPs, DE PGs, MA LSPs, NE, NJ LSRPs, and SC PGs..

## Training Locations/Accommodations

Sheraton Framingham Hotel & Conference Center  
1657 Worcester Rd  
Framingham, MA

Until October 26, a limited number of rooms are available at a special group rate. Participants are responsible for arranging and paying for their lodging. More lodging information and a link to register for the hotel are available on the registration page.

## ADA (Americans with Disabilities Act)

If you require special accommodation to fully participate in this seminar, please contact the ITRC Training Program at (402) 201-2419 or [training@itrcweb.org](mailto:training@itrcweb.org) at least four weeks prior to the course start date.

**ITRC is hosted by**



Environmental Council of the States

For more information about ITRC and its available products and services go to [www.itrcweb.org](http://www.itrcweb.org)



**ITRC Federal Partners**



ITRC Industry Affiliates Program



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U.S. Environmental Protection Agency

## Training Sponsor Opportunities:

\$2,000 per location (save \$1,000 when sponsoring three or more locations in 2016)

Registration for all 3 locations must be completed by April 15, 2016 to qualify for the discounted price.

Includes free attendance by one company representative. Recognition will be given at the event, in class materials, in ITRC news emails, and on ITRC website. Optional exhibit space at event available.

More information on the registration page: [www.itrcweb.org/training](http://www.itrcweb.org/training)