FACT SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Vapor Intrusion Sampling

Office of Land Quality

317-232-8603 • 800-451-6027 **www.idem.IN.gov** 100 N. Senate Ave., Indianapolis, IN 46204

What is vapor intrusion:

Chemicals from dry cleaning, degreasers, or gasoline can cause concern when they are spilled or leak into soil or groundwater. Chemicals, whether from a recent or previous spill, can move through the soil and mix with groundwater. These chemicals can then evaporate into vapor from soil and groundwater then migrate into buildings by moving through soil or even through sewer lines. Underground gas can get into buildings through cracks in basements, foundations, or crawl spaces, or through holes, floor drains, sumps, or other openings. This movement is known as vapor intrusion. The gas can collect under buildings and can impact the indoor air of homes and businesses. The chemical level (concentration) in indoor air can change for many reasons, affecting the possible health of the people that use these buildings.

From: ITRC (Interstate Technology & Regulatory Council). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. VI-1. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Team.

How to investigate vapor intrusion risk

- Specialized steel canisters (called SUMMA canisters) are often used to collect vapor samples for laboratory analysis.
- Paired indoor air and sub-slab soil gas are collected to evaluate vapor intrusion risk inside a building.

Indoor air *Photography by Haley Faulds, IDEM*

From: Ohio EPA. May 24, 2016. *Memorandum. Ohio EPA's 2010 Vapor Intrusion Guidance. Division of Environmental Response and Revitalization.* Programs.

Frequently asked questions (FAQs)

- **Why test for vapor intrusion?**
  Vapor intrusion is a concern because vapors can build to a point where the health of residents or workers in certain buildings could be at risk. If testing reveals a problem, then a simple, cost-effective solution can be taken to resolve it, making the indoor air safer to breathe.
- **Who pays for the sampling/testing?**
  The responsible party hires and pays environmental professionals to perform the sampling/testing.
- **What do I need to do to prepare for the sampling?**
  Prior to the sampling, you will be asked some questions for the building survey and, if applicable, instructed to remove potential background sources (e.g., solvents and some household cleaning products) days before the vapor intrusion testing begins.
- **Does installing a sampling port in the concrete floor involve heavy machinery? Will it make a mess in my basement?**
  Installing a sampling port generally involves using a handheld drill to make one or more small holes into a basement floor or foundation. The installation can usually be completed in less than an hour at a typical home. The sampling port is capped when not in use and is flat to the surface. It will be permanently sealed when sampling is no longer needed.
- **Does drilling in the floor make it easier for vapors to get into the indoor air?**
  The sampling ports will be capped when not in use. If ports are properly sealed, volatile chemicals will not enter indoor air through the capped sampling ports.
- **What is the sampling duration and how often will the vapors be sampled?**
  Indoor air sampling usually takes 24 hours for houses and 8 hours for commercial buildings. Below foundation vapor sampling usually takes from less than an hour to 24 hours for residences and from less than an hour to 8 hours for commercial buildings. The environmental professionals will leave the sampling canisters in the room after setup and come back the next or same day to take the canisters to a laboratory for testing. Two rounds of sampling are typically needed to determine the vapor intrusion potential, one in the summer and another in the winter.
- **When and how do I get the results?**
  After sampling, the vapor samples will be sent to a laboratory for analysis of volatile chemicals. It takes up to 30 days for the laboratory analysis to be completed. An environmental consultant and/or IDEM staff will send the results, talk about the results with you, and discuss mitigation measures, if needed. All costs are covered by the responsible party.

References:

- EPA. January 2012. *Fact Sheet: What You Should know About Vapor Intrusion*. Superfund Division.
- ITRC (Interstate Technology & Regulatory Council). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. VI-1. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Team.

Contact information:

Project Manager: _____ Phone: _____ Email: _____