

VAPOR INTRUSION

THE MIGRATION OF VOLATILE CHEMICALS FROM THE SUBSURFACE INTO OVERLYING BUILDINGS

Vapor Intrusion is an area of growing concern across the country as multiple states enact regulations in response to the USEPA Guidance Document published in November of 2002. A copy of this document, (*Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils*), can be accessed on the USEPA website: <http://www.epa.gov/epaoswer/hazwaste/ca/eis/vapor.htm>.

Environmental scientists have been studying the vapor intrusion phenomenon for years and have hypothesized that under the right conditions this movement of volatile contaminants may pose a threat to the safety of indoor air. The EPA recommends evaluating the potential for vapor intrusion at Brownfields, RCRA and NPL/Superfund sites – and the guidance provides an approach that begins with simple, generally reasonable, conservative screening approaches, and gradually progresses toward a more complex assessment involving increasingly greater use of site specific data: i.e., laboratory testing.

Because the EPA initiative is a guidance only, actual site activity will be determined by regulation or guidance developed on the state level. This is not only appropriate, but practical as well because regional variations in geological properties and site-specific challenges will impact the conceptual site model and the pathway evaluation strategy.

The evaluation of a potential vapor intrusion site can be a challenging proposition involving:

- ▶ **Multiple Sampling Techniques**
- ▶ **Specialized Sampling Media**
- ▶ **Extensive List of Potential Contaminants**
- ▶ **Indoor and Outdoor Background Concerns**
- ▶ **Local Geological and Physical Site Constraints**



Pace Air Lab Experience: The Air Lab at Pace Analytical has extensive experience in the implementation and application of the USEPA Vapor Intrusion Guidance, as well as complimentary regulations or guidance at the state level. This expertise can be invaluable in the selection of sampling strategy, methodology and media – and the successful completion of your project. As an example, subsurface sampling in the State of Indiana requires the use of 1 liter canisters versus 6

Pace Air Lab maintains a substantial inventory of certified sampling media of all types to meet specific technical requirements and recommendations of the EPA Guidance, including both 1 and 6 liter summa canisters and flow control valves for time-weighted composite sampling.



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