



Vapor Intrusion – Is It as Bad as It Sounds?

When assessing contaminated property, environmental professionals should pragmatically assess the risk between contamination in the ground with the possible exposure to those living, working, or visiting the property. Contamination occurs by ingesting, absorbing, or inhaling contaminants in a solid, liquid or vapor phase. While most people at a contaminated property will not come in contact with or drink affected soil or water, this leaves the risk of exposure to legacy contaminants at most properties through breathing contaminated indoor air through the process of vapor intrusion.

THAT NEW CAR SMELL – A VAPOR INTRUSION WE ALL RECOGNIZE.

That New Car Smell. We all know what that means and can recognize it, but what is it? The interior of a car consists of plastic and fabric held together with a number of adhesives and sealers. These materials release, volatile organic compounds or vapors, via off-gassing. Likewise, vapor intrusion occurs when vapors from contamination in the ground is emitted into a building through cracks in the foundations, floors and other openings in the building in contact with the ground. If the vapor concentrations are high enough, inhalation of these vapors inside the building can cause health effects and disease. While the mere presence of contaminated vapors does not conclude an issue, it is the collective types and concentrations that determine if the vapors are at an unacceptable level.

Unacceptable air quality through vapor intrusion process must include the following:

- The presence of contamination in the ground at or near the property that contain volatile compounds.
- A building present over or near said contamination.
- A conduit for the vapors to migrate into the building.
- The concentration of vapor is high enough to exceed EPA risk thresholds.

MITIGATING VS. REMEDIATION OF VAPOR INTRUSION

Analysis of indoor air has shown elevated concentrations of contaminant vapors. Now what? The restoration process to either eliminate or lower vapor concentration in indoor air to acceptable levels include either remediation of the contaminants in the ground or mitigating the vapors entering the building. Remediation options will eradicate the contamination and tend to be expensive with costs up to six-figures. It can also be disruptive to the property and often time consuming. While mitigation techniques reduce or eliminate environmental exposure risks, they can also be quicker, more efficient and cost-effective.

Vapor mitigation techniques include one or a combination of the following:

- Installation and operation of a sub-slab ventilation system under the building.
- For new construction, installation of a vapor barrier.
- Sealing of cracks and opening in foundations and floors.
- Use of the building ventilation system to positively pressurize the building and prevent vapor intrusion.

When comparing costs, remediation techniques typically range in six-figures, while mitigation processes are typically in the tens of thousands of dollars. Where contaminated properties only present exposure risks related to vapor intrusion, the mitigation of such risks can often be done quickly, relatively cost-effectively and with minimal disruption to the building.

If your building is affected by vapor intrusion, it doesn't mean it is not a viable property. WESTECH understands vapor intrusion and can expertly test and mitigate any environmental exposure risks. Let us provide you a straightforward approach for your property.

**If you are deciding if remediation or mitigation is right for your property, let us help.
Call WESTECH at 513.353.0700 or email Mike Westerfield at mwesterfield@gowestech.com.**

About WESTECH

WESTECH Environmental Solutions is an environmental consulting firm focusing on the assessment and management of contamination and environmental hazards at properties. As environmental consultants, we offer an integrated set of services to clients purchasing, managing and redeveloping properties. With WESTECH, we strive to provide the balance between minimizing your environmental liabilities and minimizing your costs to do so.