

March 2010 Frequently Asked Questions

1. Can residents in the Vapor Mitigation Area have an option to choose an independent contractor to conduct sampling of their homes before mitigation systems are installed?

The NJDEP and EPA do not support use of homeowner-selected contractors for this sampling. However the NJDEP and EPA are currently developing an alternative program to allow residents in the Vapor Mitigation Area the ability to use a NJDEP contractor to conduct subslab and, as appropriate, indoor air sampling before system installation. The NJDEP is currently developing the process and engaging a contractor to conduct the sampling. More details will be posted when available. EPA will also have a contractor available to oversee the sampling conducted by the NJDEP contractor.

It is important to recall that the Conceptual Site Investigation conducted in 2008-2009 documented in a representative number of houses that elevated levels of sub-slab soil gas occurred in over 95 percent of the homes. Therefore, the above referenced sampling is not necessary to support the conclusion that some form of mitigation should be implemented in houses located in the area of the elevated shallow groundwater contamination. The EPA and NJDEP have stated that residents within the Vapor Mitigation Area should have the mitigation systems installed as soon as possible to prevent potential exposure to volatile chemicals entering the structures from the subsurface.

The overriding technical concern with collecting samples – whether for vapor intrusion or any other pathway - is the quality of the data. In particular, sub-slab soil gas samples are especially troublesome due to concerns with the unique sampling technique, the introduction of background sources, dilution of the sample from leaks, faulty equipment and inexperienced technicians. Observations to date of sampling events conducted by DuPont's consultant, O'Brien & Gere, have revealed no deficiencies affecting the overall quality of the data. Likewise, validation of the analytical results from TestAmerica Laboratory has shown consistent high quality and reproducibility.

2. In the Contractor Information Packet, Item #2, Homeowner Information (Part 1 of 2): we are concerned that agreeing to the Certification Statements may result in residents' financial liability for these Systems.

The residents will not be responsible for costs once NJDEP or EPA have approved a cost estimate. The Homeowner must insure that the required Scope of Work and cost guidance is followed by the contractor they choose. The first step is to obtain a cost estimate from a contractor for the entire Scope of Work before the work proceeds. Costs are not reimbursable if the contractor goes beyond the scope of work and/or cost guidelines without prior NJDEP/EPA approval. However, DuPont will not reimburse twice to correct deficiencies in the work. Contractors or residents can contact the DEP to discuss any questions they have with the cost guidance before they begin work. The homeowner should immediately contact the Agencies if contractor cost estimates or actual costs will potentially exceed the guidelines.

3. *Can we "bundle" residential installations of vapor mitigations systems to lower the cost of the installations?*

Bundling of the installation projects is an acceptable approach, and is, in fact, encouraged. Affected residents may contract with an approved vendor as a group. As each property owner will still require an individual design, reporting and inspection program, the group rate should be reflected in each property owner's contract. All reporting requirements, as outlined in the cost guide should be submitted individually to the agencies as required and payment will be made for each individual installation project.

To assist in this process, the Borough of Pompton Lakes is planning to host a contractor fair for interested parties. More details will be available from the Borough in the near future.

4. *Can a soil gas sample be collected from outside of the house?*

Sub-slab soil gas samples are universally collected by drilling a small hole (the size of a nickel) through the slab of the lowest floor and withdrawing a specific volume of air. The hole can be resealed or a permanent sampling port can be installed. When properly done, the resealed hole or sampling port will not be noticeable and will prevent subsurface gas or water from entering the structure. The reason this technique is used so widely is that it provides the best, most accurate results. No other technique has been shown to be as accurate and reproducible.

An alternative, if a sub-slab sample can not be collected, is to collect a "near slab" soil gas sample. This involves drilling a larger hole immediately adjacent to the building (within 10 feet of the foundation) and collecting a soil gas sample at the same depth as the slab on the lowest floor. Recent research conducted by the EPA has preliminarily concluded that there is a poor correlation between the soil gas results collected from the near slab and the sub-slab. Therefore, most regulatory agencies require sub-slab soil gas samples to investigate the vapor intrusion pathway. Because of the uncertainties and the fact that the near slab samples may be biased low, unless there are no other options, exterior near slab soil gas sampling is generally not acceptable as the exclusive determinant in assessment of the vapor intrusion pathway.

Another alternative evaluated is diagonal drilling to collect soil gas samples. While potentially useful for collecting soil gas samples at some depth beneath a structure, it is not a substitute for sub-slab sampling directly below the slab. The soil gas samples collected from diagonal drilling may be 5-15 feet (or more) below the building slab. Therefore, a mathematical model has to be employed to extrapolate what the concentrations are directly below the slab. When evaluating potential risk to people, actual sample results are always preferable (and more accurate) than modeling. As with near slab sampling because the sample is not collected directly below the slab there are additional data uncertainties and potential to bias samples low. Diagonal drilling also can not be used in all circumstances (i.e. clay soil), can result in damage to landscaping and the quality assurance is more difficult.

5. *Is an option available to install a Vapor Mitigation System on the outside of the home?*

For over 30 years, the standard mitigative approach for addressing radon & vapor intrusion in existing houses is to install one or more suction points through the slab and vent the contaminants into the outside air. This technology has proven to be extremely reliable and successful at preventing subsurface gases from entering a structure and adversely impacting the indoor air quality. The federal and state regulators are not aware of any other mitigation approach that exceeds the effectiveness of the systems installed in the Pompton Lakes community. The current systems installed – sub-slab depressurization, submembrane depressurization and sub-slab ventilation – are utilized throughout the world to mitigate radon and vapor intrusion.

Horizontal drilling from the outside of a building, especially a structure with a basement, is extremely difficult for the purpose of evacuating soil gas from immediately below the slab. The NJDEP and EPA will not approve an experimental technology without sufficient supporting data or comparative studies to confirm its effectiveness. We require the best available technology to mitigate site-related contamination and protect the health and safety of the New Jersey residents.

6. *I want to select my own contractor, but I want the contractor to install a system that is also radon compliant. Will DuPont pay for the additional testing and reporting that is required for a radon system?*

No. The homeowner will be required to incur all additional costs associated with the additional radon testing and reporting requirements. However, as previously noted if there is an existing radon system in a home, DuPont is required to consult with a certified mitigation business and pay for any additional costs related to the radon system requirements.

7. *Isopropanol was detected in the sub-slab soil gas samples collected at the Lakeside School. Is the NJDEP going to resample the school?*

The DuPont groundwater contamination has not impacted the Lakeside Middle School. To address resident's continued concern that groundwater contamination from the DuPont site may be impacting the indoor air quality of the school on April 15, 2009, the NJDEP collected a series of 6 sub-slab soil gas samples at the Lakeside Middle School. The contaminants of concern associated with the DuPont groundwater contamination, primarily tetrachloroethene (PCE) and trichloroethene (TCE), were not detected in the sub-slab soil gas samples. Based on these results, the validation of the laboratory data packages, and the delineation of the groundwater contamination, the NJDEP/EPA concluded that the Lakeside Middle School is NOT adversely impacted by vapor intrusion from the DuPont site.

Other compounds unrelated to the DuPont site were detected in the sub-slab soil gas samples, including acetone and isopropanol. While the precise source of these compounds is unknown, none of these results exceed the NJDEP Soil Gas Screening Levels or represent a risk to the student's health. In addition, the concentrations of isopropanol found did not "mask" or

prevent the laboratory from properly reading the results for the contaminants of concern and therefore do not require additional sampling efforts to occur.

In May 2009, the NJDEP also confirmed that isopropanol and acetone are not DuPont contaminants of concern in the plume by analyzing groundwater samples. Neither isopropanol nor acetone was detected in the NJDEP analysis. The sample results are available at: http://www.nj.gov/dep/srp/community/sites/dupont_pompton_lakes/groundwater2009.htm

8. *According to DuPont's December 2009, Draft Remedial Technology Evaluation for Offsite Groundwater Contamination report, monitoring well #5 and #105 appear to have an increasing concentration trend for both PCE and TCE. Should an unknown source investigation be required for this area?*

Page 12 of this report states that "The VOC concentrations at monitoring well MW-5 continue to increase despite the extraction of 57 gpm of groundwater from the adjacent well RW-62 for 11 continuous years. The increasing VOC data at well MW-5, as well as the speciation data, indicate an area of elevated concentrations in the vicinity of MW-5. Similar observations could be made for well MW 105A-I."

These concerns are largely addressed by the remainder of the paragraph partially quoted above. DuPont states "Most likely, the groundwater recovery system is pulling VOC-impacted groundwater from the intermediate and deep alluvial zones of the aquifer. The increasing VOC concentration trend at MW-5 indicates that the deeper zones may contain higher mass of VOCs. The nature of these elevated concentrations, i.e., absorbed and/or residual mass is not known." The NJDEP agrees that this is the most likely scenario. The NJDEP and DuPont believe that the overall "source" of the contamination in this area is from discharges made to the lagoons adjacent to these wells. However, the most important issue in this area is that contamination found in these wells is captured by the pumping wells, treated and is prevented from migrating off-site.

9. *When will the Pompton Lakes drinking water be tested? In addition, why was public supply well #3 that was shut down in the 1980s put back in service?"*

The NJDEP has reviewed water quality data collected from all three municipal wells and the distribution system operated by Pompton Lakes during the past 10 years. All primary drinking water quality parameters are in compliance with maximum contaminant levels (MCL) and action levels during the time period. While the contaminants 1,1,1 trichloroethane and 1,1 dichloroethane, 1,1 dichloroethene have been found in Municipal Well #3, they were at levels below the MCLs. As further discussed below, the source of the contaminants in Municipal Well #3 is not from the DuPont facility.

The NJDEP contacted the licensed operator for the water system. According to the operator, Municipal Well #3 was only taken off-line was for approximately one month in 1985.

Municipal Well #3 is at the corner of Willard Street and Midland Ave in Pompton Lakes. The well is 160 feet deep and is screened from 140-160 feet. The well is in an unconsolidated

aquifer. Topographically, Pompton Lakes is a series of river valleys. In each valley the ground water generally flows from north to south. Municipal Well #3 is about three quarters of a mile from the DuPont site. The well is in the valley of the brook which drains the Lower Twin Lake. The DuPont volatile organic contamination is in the Acid Brook Valley which is two valleys away from Municipal Well #3. The DuPont contamination is delineated to the New Jersey's Ground Water Quality Standards. Based on all this information, DuPont-related contamination has not migrated to Municipal Well #3 and therefore no testing of the Municipal well is required as part of the DuPont ground- water investigation. All Municipal wells are required, however, to comply with the NJ Bureau of Safe Drinking Water requirements and other applicable Federal requirements

10. How often is the plume checked to determine if it has moved or grown in size?

Groundwater is sampled twice a year and the results are submitted to the EPA/NJDEP annually. Based on the ground water elevation data and chemical data collected since the early 1990's the ground water plume has not grown. Since ground water to the North is at higher elevations than the plume, the contaminant plume will not expand northward.

The NJDEP/EPA monitors the size of the plume and the concentrations within the plume by reviewing ground-water analytical results and ground-water elevation data. These data are collected from selected wells on-site and off-site and are submitted to NJDEP/EPA annually by DuPont. In addition to the most recent data, DuPont includes charts of historic data that show how the contaminant concentrations have varied over time for each well. These reports are available in the repository in the Pompton Lakes library. In 2008 the NJDEP/EPA also required DuPont to install 22 temporary well points to better define the overall shallow ground-water plume. These results closely matched the results from the permanent monitoring wells. These data show that the plume has not grown over time.

11. Is the plume of volatile organic compounds impacting Pompton Lake?

Ground-water, like surface water, flows from areas of high elevation to areas of low elevation. At the DuPont site ground-water flows from the DuPont property, southeast to Pompton Lake. Likewise the volatile organic ground water contamination begins at the DuPont facility and has migrated to the lake. When the ground-water reaches the lake the contamination is broken down by the lake sediments and diluted by the water in the lake to a level that can not be detected.

12. What actions can I take regarding the loss of property value of my home?

If anyone that sells their home believes that the value of the property was diminished due to the site, they can speak to representatives of the NJDEP Bureau of Contract and Fund Management at (609) 777-0101 to determine whether they may be eligible for compensation through the New Jersey Spill Compensation and Control Act (Also known as the New Jersey Spill Fund). More information and Frequently Asked Questions regarding the New Jersey Spill Fund can also be found on the NJDEP web site at:

http://www.nj.gov/dep/srp/finance/spillfund/spillfund_faqs.htm