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# EPA Oversees Vapor Intrusion Investigation

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## Rolls-Royce Corporation Facility

Indianapolis, Indiana

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### For more information

For questions, comments or more information contact these EPA team members:

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### Information repositories:

Official documents are available for your review at:

Indianapolis Public Library –  
West Branch  
1216 S. Kappes St.  
Indianapolis, IN

and

U.S. EPA Records Center  
Seventh Floor,  
77 W. Jackson Blvd  
Chicago, IL

### On the web:

Rolls-Royce Corporation Facility  
Corrective Action website at:  
<https://www.epa.gov/hwcorrectiveactionsites/hazardous-waste-cleanup-rolls-royce-indianapolis-indiana>

U.S. Environmental Protection Agency and the Rolls-Royce Corporation are investigating environmental impacts related to industrial activities at the Rolls-Royce facility in Indianapolis. The current study is checking for a pollution problem called vapor intrusion. Vapor intrusion occurs when contamination in the groundwater or soil gives off gases that can rise through the soil and enter buildings through foundation cracks and holes, possibly causing unsafe indoor air quality. Groundwater is an environmental term for underground water and soil gas is a term for underground air. A family of chemicals called volatile organic compounds, or VOCs, is especially prone to vapor intrusion because those chemicals evaporate quickly into the air. This study will focus on the VOCs trichloroethene, or TCE, and tetrachloroethene, or PCE.

Under an agreement with EPA, Rolls-Royce has collected soil, groundwater, and soil gas samples related to the facility's prior use of VOC solvents. Soil gas, sub-slab, and indoor air tests are used to find vapor intrusion problems. In soil gas and sub-slab testing, probes are dug into the ground or under building foundations to test for VOC vapors trapped between soil particles. Air sampling measures the concentrations of hazardous gases released in the indoor air. For an air test inside a structure, a small canister is simply placed on a table or counter for a day to collect the sample.

### What is the purpose of the investigation?

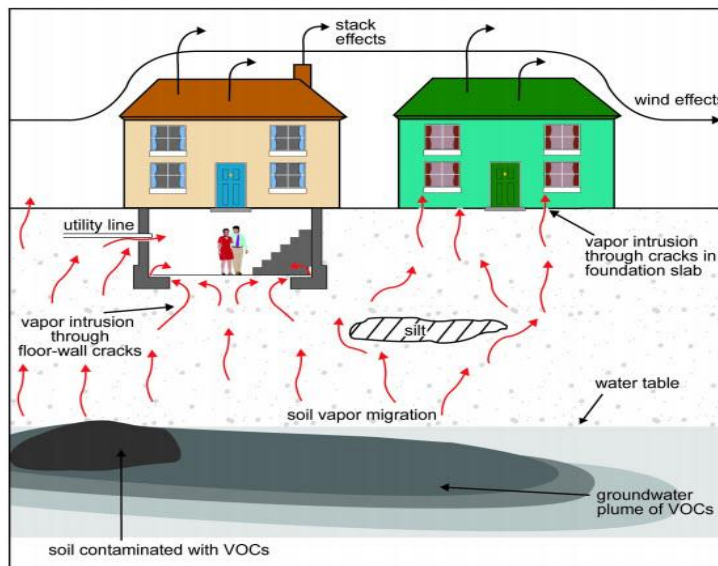
Groundwater sampling shows contamination from the Rolls-Royce facility has moved off the property and beneath some houses nearby. Under the federal Resource Conservation and Recovery Act, or RCRA, EPA requires facilities such as Rolls-Royce to demonstrate that chemicals used at these sites are not a health risk to the community. If a release does occur, EPA has the authority under the RCRA law to require the facility to address the contamination. Rolls-Royce collected soil gas samples in the neighborhood to determine whether the groundwater is producing vapors that could potentially evaporate into indoor spaces. Testing results show the potential for vapor intrusion exists, so Rolls-Royce needs to collect additional information about conditions in the neighborhood.

EPA has directed Rolls-Royce to contact residents in the area with a potential vapor intrusion concern to discuss collecting samples within their homes. There are many factors involved with vapor intrusion, such as weather, groundwater flow, and building structure. Sampling is not planned in every home at this time.

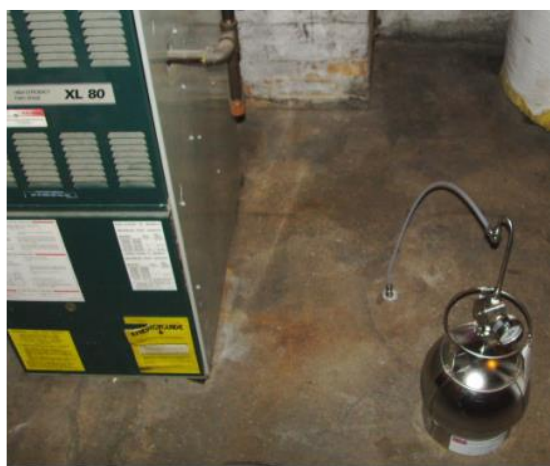
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## What is the purpose of the investigation (*continued*)?

If you are contacted by a Rolls-Royce representative for sampling, it does not mean vapor intrusion is occurring in your house. However, to be certain that no health risk exists, Rolls-Royce will need to collect samples. Many houses also contain some VOC vapors given off by household cleaners, dry cleaning, solvents, and paint. EPA wants to ensure any VOCs inside your home are not from contamination from the Rolls-Royce facility and do not rise above unsafe levels. Samples of soil gas and indoor air will help answer the question of whether vapor intrusion is occurring.



*Summa canister placed on table to collect indoor air sample.*



*Summa canister installed in basement.*

## How are Vapor Intrusion samples collected?

Rolls-Royce will work with owners and residents to schedule and explain the sampling process before the sampling is conducted. The sample team will typically visit the home to look for possible sources of VOCs in the building and ask some questions about who lives in the home. This information is used to make sure samples are collected in the appropriate locations. Two types of samples are collected. Indoor air samples are collected from basements, crawl spaces, or the first floor. Sub-slab samples are collected from the soil gas below the basement floor. Sampling teams will usually follow three steps:

**Step 1** – The sample team removes household VOCs from the sampling areas. Products typically removed include paints, wood preservatives, cleansers, disinfectants, aerosol sprays, air fresheners, hobby supplies, gasoline, and other automotive products. Removing these products will give a better understanding of the source of any vapors that may be detected.

**Step 2** – The sampling equipment is set up and left in place over night. Devices called Summa canisters, shown in the pictures to the left, are used to collect the air samples. Installing the basement canister usually involves drilling a small hole in the basement floor and connecting the Summa canister to the hole.

**Step 3** - The canisters are removed from the home and sent to a laboratory for analysis. The hole in the basement floor is plugged.

## Next Steps

Rolls-Royce plans to collect two sets of samples, one in the summer and one in the winter. A Rolls-Royce representative will contact you to provide the results. Rolls-Royce will also submit these results to EPA. The data will be compared to agency health standards and Rolls-Royce will determine the next steps based on this comparison. EPA will review the data and any next steps taken by Rolls-Royce.

**The public drinking water supply has not been impacted by this contamination. If you know of any private water wells in the area or have questions at any step of the process, please contact the EPA team members listed on the front side of this Fact Sheet.**