

Hill AFB Operable Unit 15 (Indoor Air Sampling Program) Frequently Asked Questions

How do chemicals from the groundwater get into my home or building?

Vapor intrusion, the process by which chemical vapors enter a home or building, can happen when the building is located above or near an area of contaminated groundwater. If the chemicals in the groundwater are found at the water table, they can vaporize and move up into homes and buildings through gaps, cracks, or holes in the foundation or basement floor. Whether or not the chemicals enter the home or building depends on a lot of things, including the atmospheric pressure inside the home or building, the outside temperature, the type of heating system in the location, etc. If the specific conditions align, vapors can enter the home or building. In some areas of Layton or South Weber, the chemical vapors can enter homes and buildings through preferential pathways such as field drains or sewer pipes.

How do I know if vapors are entering my home or building?

If you live near an area of shallow groundwater contamination, we will sample the air in your home for free. Tests are only done during the heating season (October through March), as that is when vapor intrusion is most likely to occur. We will provide you with a summary letter and results table, which should be received generally eight weeks after the sampling is completed. If vapors are present in your home or building, we will call with the results over the phone, as well as provide them in writing to you through the summary letter.

What is TCE?

TCE, or trichloroethene, is a degreasing solvent used heavily in the 1960s and 1970s, but not as much now. TCE was disposed at several locations across the base and is the most common groundwater contaminant at Hill AFB. TCE is believed to be linked to specific types of cancers and birth defects in people. We can follow-up with you to provide website information for the EPA and others that will have more information about these TCE health effects.

How much does testing cost?

Testing the air costs you nothing. We cover all costs associated with the testing and any subsequent mitigation efforts.

What does the sampling involve? What is the air sampling process?

1. After agreeing to allow sampling, you will be contacted within a few weeks to set up an appointment at a time convenient to you.
2. The scheduler will ask you to prepare by removing chemicals from your home and garage that could interfere with the testing. Gun cleaners, adhesives in metal containers or tubes, and engine degreasers are common consumer products that contain TCE.
3. On the appointed day, a pencil-sized device will be placed in the home, usually in the basement or lowest livable space. The sampling device does not make any sounds and will be placed out of the way so as not to disturb you or your family. The placement appointment will take approximately 30 minutes to allow time for a quick survey of household items that could interfere with the test.
4. We will leave the sampling device in your home for 24 to 26 days. During that time, we will contact you to arrange a short follow-up appointment, again at your convenience, to retrieve the sampling device.
5. Once the sampling device has been retrieved, the sample will be sent to an approved laboratory for analysis.
6. Results of the test will be mailed to you (and the homeowner or property owner, if not you) within eight weeks of the sample retrieval.

How long after a location is sampled does it take to know the results?

Are the residents and/or owners provided the results?

If there is a detection (above or below the action level), you will be notified of the results within two to four weeks of the pickup appointment by phone or email. Otherwise, the results will be mailed within eight weeks. If you do not own the home or building, we will also notify the property owner of the results.

What happens if vapors are found in my home or building?

If the sample comes back as positive and above our action level, we will request to complete additional investigations. If the source is confirmed as vapor intrusion from the groundwater, we will recommend the installation of a Vapor Intrusion Mitigation System (VIMS). These system types may vary, but generally consist of a pipe that is installed through your basement floor. A small fan, installed in the attic or on the outside of the home or building, is attached to the pipe. This fan sucks the vapors from beneath the foundation, up through the pipe and out of the house or building before they can enter the residence. Radon remediation uses a similar system. More than 125 VIMS have been installed with great success around the base. The Air Force will pay all costs associated with the VIMS.

If vapors are detected, but are below the action level, we will continue to monitor the levels in the home on an annual basis or complete additional investigations to narrow down the source. If at some point vapors are found above the action level, a VIMS will be offered.

What if the sample doesn't detect vapors in my home or building?

If vapors are not detected in the sample, then it is unlikely vapor intrusion is occurring in your home and it is possible that additional sampling will no longer be needed. The Air Force has developed "Graduation from the Sampling Program" criteria based on non-detect sample results and these criteria have been reviewed and approved by the regulatory agencies overseeing Hill AFB's cleanup program – including the U.S. Environmental Protection Agency (EPA) and the Utah Department of Environmental Quality (UDEQ).

Sample locations in Operable Units 1 and 2 in South Weber are the exception, as performance samples are offered every year to ensure the sewer fans are effective at preventing vapors from entering the home through sewer gas.

Do the vapors pose risk to people living in the home?

Protecting the health of residents is our top priority. When we do find vapors in homes, the concentrations are usually very low. While most people will not experience adverse health effects, some sensitive populations may be affected by short-term exposure to the chemicals. The action levels have been set with this in mind. This is why we test the air and take measures to prevent vapors from entering the home.

Short-term exposure to TCE vapors in the first trimester of pregnancy may increase the chance of heart defects in the baby. Long-term exposure may increase the risk of certain types of cancer.

Our objective is to ensure that vapor levels do not exceed the action levels, which have been developed in conjunction with UDEQ and the EPA. The latest research was used to set these levels, which have extra layers of safety built in to ensure protection of the most sensitive populations, such as children and the elderly. If the levels detected from the groundwater exceed the action level, we can install a VIMS to reduce those levels to below the action level.

Are our property values affected by Hill's groundwater contamination?

We do not track real estate trends or property values in the communities surrounding Hill AFB, so we encourage you to contact a real estate professional with this question. We have seen homes bought and sold within the affected areas (areas offered sampling due to proximity to groundwater plumes or sewer gas sampling areas), including homes with VIMS. We have worked with prospective buyers to answer their questions about Hill's cleanup program and the indoor air sampling program. When you decide to sell your home, we are available to talk with any prospective buyers.

How do you know if vapors are coming from inside the home or from the groundwater?

The sampling device we place in the home or building only tells us if vapors are present in the air inside the home. It does not tell us the source of those vapors. If vapors are detected in the initial sample above an action level, the Air Force will conduct additional testing to look for inside sources. If none are identified, vapor intrusion is the likely source and, if above an action level, a VIMS will be offered to the resident. If an inside source is identified, we ask the resident to remove the item and then we test again.

If the inside sources are removed and follow-up tests are still positive, the sampling team may conduct a pressure test to artificially create optimal vapor intrusion conditions. If those tests produce a positive result, then it's likely that the groundwater is the source of the vapors in the home.

It's important to note that a VIMS will not be effective if an inside source is present. A VIMS only pulls contaminant vapors from beneath the home. If a source is inside, it will continue to be found in the air until it is removed.

I've been sampled in the past. Do I need to be sampled again?

That depends on the type of sample taken. If you have been sampled using one of the large, silver canisters, your sample was for one 24-hour period. Research has shown, however, that vapor intrusion occurs only under certain conditions that can vary from day-to-day. If your sample was taken on an unfavorable day, it may miss vapor intrusion that could be occurring on other more favorable days.

In 2016, the Air Force replaced the 24-hour sample canisters with new devices that are left in a home for 24 to 26 days. These long-duration sampling devices allow for continuous monitoring of the air during both favorable and unfavorable conditions. If vapor intrusion is occurring, these devices have a better chance of finding it. If there is no vapor intrusion, these devices will report that with much greater certainty than the 24-hour canisters.

If you've only been sampled once or twice before using the old sampling method, the results may not sufficiently guarantee that vapor intrusion is not occurring in your home. We recommend having your home sampled using the new long-duration sampling device. If you've had sampling done with one of the new sampling devices and it shows vapor intrusion is not occurring, your location may not require further sampling.

Do I still need testing if I don't have a basement?

We still recommend having your home tested as the chemicals can still enter through the foundation or crawl space. We will place the sampling device in the lowest livable space of your home.

What has the Air Force done in the past to contact residents about sampling?

Over the last 20 years, we have: 1) gone door-to-door to talk with residents and left material about sampling; (2) mailed certified letters and other material to residents in the affected areas; 3) published notices about the indoor air sampling program in city newsletters and local newspapers; 4) held information fairs, city council briefings, and public availability sessions for residents to get answers to questions about the groundwater contamination and indoor air sampling; and, 5) participated in media interviews to get the word out about the sampling.

How do I know if my home has had testing done previously?

Can I get the results of past sampling?

Hill AFB tracks all the testing and results in a large database. Our records will show if sampling has or has not been conducted in your home since the switch from the 24-hour canisters. If you're interested in the historical results from your property, we can look them up and mail or email them to you if your home was sampled previously. Due to the volume of sampling requests at this time, please allow us a few weeks to get these to you.

Are my fruits and vegetables safe to eat?

Yes. In conjunction with Utah State University, we conducted several studies to determine if contaminants in the groundwater are reaching fruits and vegetables. Researchers determined that contamination was not affecting fruits and vegetables grown in areas of groundwater contamination.

What if I don't want indoor air sampling?

We really encourage you to have the sampling done in your home to verify whether there is a risk to you and your family's health. The testing is free, and if vapors are found, we will work with you to determine the best solution forward. We want to make sure you and your family's health is protected. Please think about having the testing done, and call us at one of the numbers on the main page if you have any questions about the sampling.

Is my drinking water safe?

Yes. You are most likely connected to city water. The city obtains its drinking water from deep aquifers or mountain reservoirs. Your city regularly tests its water to ensure it is safe. If you are drinking city water, you are not drinking contaminated water. For information about your drinking water, contact your city's public works office.

How does the Resident-Placed Sampling work?

In previous years, an Air Force sampling technician has placed and collected each sample from homes and businesses. Last sampling season, the Air Force introduced a resident-placed sampling option so the sampling technician would not need to enter your home or building. The sampling technician would bring the sampling device to your door with instructions on the sampling procedure. To take advantage of this option, simply request resident-placed sampling when returning the provided response card or when you discuss your appointment with the scheduler.

The Resident-Placed Sampling Process includes:

- At the appointed time, a sampling technician will deliver the sample equipment to your door, provide instructions for proper placement, and answer any questions you may have.
- The sampling device should be placed in the lowest livable space in the home, typically the basement, in a location that will be out of the way.
- The sampling device will need to remain in place for 24 to 26 days. Once in place, we ask that you do not touch or move the device.

- You will be asked to take a photo of the sampling device after placement in your selected location. You may e-mail or text the photo to the sampling technician.
 - On the last day of sampling, the technician will arrive at a scheduled time to pick up the sampling device to send it to the lab for analysis.
 - You (and the property owner, if someone other than the occupant) will be mailed the results of the sample within eight weeks of sample collection. Results are validated as accurate and reliable through a third-party laboratory.
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