



Understanding Your Well Test Results from Vista (Former Wurtsmith Air Force Base and PFAS) December 2017

The U.S. Air Force or Michigan Department of Environmental Quality's (MDEQ) contractor, AECOM, tested your well water for a group of chemicals called per- and polyfluoroalkyl substances (PFAS). PFAS are sometimes known as perfluorinated chemicals (PFCs). PFAS were in fire-fighting foams used at Wurtsmith Air Force Base when the base was in operation. PFAS are very persistent, meaning they stay in the environment for a very long time. The Michigan Department of Health and Human Services (MDHHS) has prepared this fact sheet to help you understand your well water test results.

How do my results compare to the Lifetime Health Advisory (LTHA) Level?

The U.S. Environmental Protection Agency (EPA) has set a Lifetime Health Advisory (LTHA) level for two PFAS in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). The LTHA level is 70 parts per trillion (ppt) for PFOA and PFOS combined. Vista Analytical Laboratory reports your well test results in units called nanograms/liter (ng/L). The number 70 ppt is equal to 70 ng/L. Other labs may use different units to report well test results.

MDHHS advice is based on the best available science and, per the EPA LTHA, protective of everyone, especially pregnant women, young children, and the elderly. When concentrations exceed the EPA LTHA of 70 ppt for PFOA and PFOS (singly or combined total concentration), MDHHS recommends bottled water or filters. When detections are lower than the EPA LTHA, we also have recommended bottled water or filters to be used in situations when we cannot be confident that these chemicals will continue to be at low levels in your well water. An environmental investigation is underway to understand the extent of contamination, specifically where the source is, what aquifers might be contaminated at what concentrations, the direction of groundwater flow, and movement of the contamination. This information, in relation to the location and depth of a private well, is needed to determine the need for an alternate water supply.

What does MDHHS recommend if there are PFAS in my well water?

If you have been notified by MDHHS or District Health Department No. 2 that PFAS were found in your well water sample and that you should use alternate water, MDHHS recommends:

- Call the District Health Department No. 2 at 989-362-6183 for help with alternate water such as a water filter certified to reduce PFOS and PFOA in water.
- Use filtered water (from a system certified to reduce PFOS and PFOA) for drinking, cooking, making baby formula or food, washing fruits and vegetables, or brushing your teeth.
- Touching the water will not harm you. You can bathe, do your dishes, launder your clothes, and clean with your water.

Can PFAS harm human health?

According to the Agency for Toxic Substances and Disease Registry, some, but not all studies in humans have shown that certain PFAS may: affect the developing fetus and child including possible changes in growth, learning and behavior; decrease fertility; interfere with the body's natural hormones; increase cholesterol; affect the immune system; and increase cancer risk. For more information about PFAS-related health effects, visit www.atsdr.cdc.gov/pfc.

Understanding your PFAS well test results

To help you understand your well test results, an example of a well test results table is shown below. Your results table will include more PFAS. Keep reading to learn more about key columns of the results table.

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Dilution
Total PFHxS	1.05	0.432	2.28	3.65	J	1
Total PFOA	ND	0.297	2.28	3.65		1
Total PFOS	ND	0.368	2.28	3.65		1

This example is based on Vista Analytical Laboratory reports; other labs may show results in a different way or with different units.

Analyte

- Your water sample was tested for the PFAS shown in this column on your well test results.
- “L-” and “Br-” are different types of a PFAS compound that are added together as “Total.”

Conc. (ng/L)

- The PFAS were measured in ng/L.
- If the result listed is a number, the lab found that specific PFAS in your water sample.
- If the result listed is ND, the lab did not detect, or find, that PFAS in your water sample.

Detection Limit (DL), Limit of Detection (LOD), and Limit of Quantitation (LOQ)

- These are numbers used to explain the smallest amounts that the lab can confidently say each PFAS is present (DL); can be reliably detected (LOD); and can be reliably measured (LOQ).
- If your well test result for the PFAS is between the numbers shown in the DL and LOD columns, the lab is confident the PFAS is present but the amount is estimated.
- If the result is at or above the LOQ, the lab is confident that the PFAS is present and confident in the amount found.

Qualifiers

- If the lab did not detect, or find, that specific PFAS in your water sample, a “U” may appear in that row. This means the PFAS was not in the sample or the amount was so low the lab could not measure it.
- If the PFAS was also detected (found) in the blank, the lab will include a “B.” Blank samples are clean water samples collected from another source and used for quality control.
- If your water sample was diluted for testing, the lab will include a “D.” See the “Dilution” section.
- If the amount found in your water sample was below the LOQ (the amount that can be reliably measured), and was estimated, the lab will show this with a “J.”

Dilution

- If a number larger than “1” appears, the PFAS was found in an amount too high for the lab equipment. In that case, your water sample was diluted, or thinned down, so the lab could test it correctly. If a “1” appears, the lab did not dilute your water sample when testing it.

Labeled Standards

- The section of your report that starts with this heading is part of the lab’s quality assurance report. These are not your well test results.

For more information:

- The Agency for Toxic Substances and Disease Registry, has a website for these chemicals. This website was used to prepare this factsheet. Visit www.atsdr.cdc.gov/pfc
- Call District Health Department No. 2 at 989-362-6183 or visit www.dhd2.org/wurtsmith-activities
- Call MDHHS at 1-800-648-6942 or visit www.michigan.gov/wurtsmith
- The state of Michigan has a website with information about state response to PFAS. Visit www.michigan.gov/pfasresponse