



# Understanding Your Well Test Results

## (Camp Grayling area and PFASs)

October 2017

The Michigan Department of Environmental Quality (MDEQ) consultant, AECOM, tested your well water for a group of chemicals called per- and poly- fluoroalkyl substances (PFASs), sometimes known as perfluorinated chemicals (PFCs). PFASs were found in test wells at the Grayling Army Airfield. PFASs are very persistent, meaning they stay in the environment for a very long time. The Michigan Department of Health and Human Services (MDHHS) provides 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 LTHA level for two PFASs in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The LTHA level is 70 parts per trillion (ppt) for PFOA and PFOS combined.
- Your well test results are reported in units called nanograms/liter (ng/L). The number 70 ppt is equal to 70 ng/L.
- You can add your results for “Total PFOA” and “Total PFOS” and compare the sum to the LTHA level.

### Can PFASs harm human health?

- Studies in people who were exposed to PFASs found links between the chemicals and increased cholesterol, changes in the body’s hormones and immune system, decreased fertility, and increased risk of certain cancers.
- Animals given high levels of PFASs showed changes to the thyroid, liver, and immune system, and harmful effects in fetal and newborn animals. Animal studies help scientists understand what could happen in people.
- No one can say for sure if drinking water that has PFASs in it will harm you.
- Touching the water is not harmful.

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

If you have been notified by MDHHS or District Health Department #10 that PFASs were found in your well water sample, MDHHS recommends:

- Call District Health Department #10 at 231-876-3823 for help with alternate water such as bottled water or a water filter for PFOS and PFOA.
- 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.

## 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 PFASs.

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 PFASs shown in this column.
- “L-” and “Br-” are different types of a PFAS compound that are added together as “Total.”

### Conc. (ng/L)

- The PFASs 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 PFAS in your water sample, they may show this with a “U.” 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 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 and was estimated, the lab will show this with a “J.”

### Dilution

- If a “1” appears, the lab did not dilute, or thin down, your water sample when testing it. 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 so the lab could test it correctly.

### 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

- Agency for Toxic Substances and Disease Registry, has a website for these chemicals. Visit [www.atsdr.cdc.gov/pfc](http://www.atsdr.cdc.gov/pfc)
- The MDEQ has a website with information about PFASs at Camp Grayling. Visit [www.michigan.gov/campgrayling](http://www.michigan.gov/campgrayling)
- Call MDHHS at 1-800-648-6942.