

FAQ

PFAS Groundwater Investigation Grayling Army Airfield (GAAF) Crawford County

Frequently Asked Questions (FAQ)

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1. What is the issue at Camp Grayling?

Per and Polyfluoroalkyl Substances (PFAS), sometimes known as Perfluorinated Chemicals or PFCs) have been classified by the U.S. Environmental Protection Agency (U.S. EPA) as an emerging contaminant on the national landscape. The PFAS are a class of man-made chemicals that were introduced in the 1950s to make products that resist heat, stains, grease, and water. For example, PFAS may be used to keep food from sticking to cookware, to make sofa cushions and carpets that are resistant to stains, to make clothes and mattresses that repel water, and in food packaging like pizza boxes and airtight bags. PFAS help reduce friction and are widely used in a variety of other industries including aerospace, automotive, building and construction, and electronics.

One of the most prolific uses of the chemicals is a powerful fire-suppression foam that efficiently douses even the most combustible (and most dangerous to life and property) Class B, flammable liquid, fuel fires. Virtually every airport (public, private, military, and civilian) and every fire-fighting squad in the world is familiar with the aqueous film-forming foam (AFFF) and can attest to its effectiveness. The PFAS break down very slowly in the environment and are often characterized as persistent.

The Camp Grayling environmental staff regularly monitors several environmental factors at the camp and airfield to ensure safety, compliance with state and federal regulations, and to proactively detect and remedy potential problems. The most recent proactive measure was to test groundwater samples for PFAS. A few water samples positively detected the compound at levels above EPA guidance. The Michigan National Guard (MNG) and Michigan Department of Military and Veterans Affairs (MDMVA), along with state and local environmental experts and officials, want to share the testing information and information about this family of chemicals in general with members of the Grayling community and anyone else looking for information of this topic.

2. What are PFAS and are they harmful?

The PFAS are a large class of manufactured compounds, which have been widely used to make consumer products more resistant to stains, grease, water, and fire, as well as in non-stick cookware. The PFAS are found in some fire-fighting foam.

3. What are the lifetime health advisory levels?

The U.S. EPA set a lifetime health advisory level for two PFAS in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The lifetime health advisory level for PFOA and PFOS combined is 70 nanograms per liter (ng/L, or parts per trillion [ppt]), which is the same as 0.07 micrograms per liter (0.07 µg/L).

Another PFAS, perfluorohexane sulfonic acid (PFHxS), is also found in firefighting foams. It can have similar concerns as PFOA and PFOS, but it does not have a lifetime health advisory level. Likewise, there may be other PFAS (in addition PFHxS) found in some drinking water samples, but the EPA has not set health advisory levels for any other PFAS except PFOA and PFOS.

4. What is the state doing about this situation and which agencies are involved?

The state is currently collecting residential well data to further determine if PFAS have entered residential drinking wells. In May 2017, the Michigan National Guard and the MDMVA spearheaded the effort to visit residents in the Sherwood and Evergreen neighborhoods to inform them of the drinking well water testing in their area. In September 2017, the Michigan Department of Environmental Quality (MDEQ) took over the residential water testing and expanded the testing area to the east of the airfield. This testing is still currently underway. If any resident has additional questions regarding testing of their well, they can contact the MDEQ's Environmental Assistance Center at 800-662-9278.

Several organizations are involved in this effort, including the MNG, MDMVA, MDEQ, the Michigan Department of Health and Human Services (MDHHS), District Health Department #10 – Crawford County (DHD#10), the Michigan Department of Natural Resources (MDNR), and the Michigan Department of Agriculture and Rural Development (MDARD) are also involved to support the effort.

5. Who do I contact if I want to have my water tested?

Grayling residents living near the army airfield are encouraged to complete an information card at DHD#10 in Grayling or online at www.michigan.gov/campgrayling. You will be contacted by the Ms. Leah MacDonald, MDEQ, at 989-705-3445, or their contractor AECOM to schedule testing if your address is within the testing area. Alternatively, you may sign up through the [Camp Grayling Website \(www.Michigan.gov/campgrayling\)](http://www.Michigan.gov/campgrayling).

6. I have received my water test results. What do my drinking water sample results mean?

You should have received a letter from the MDHHS and DHD#10 along with your test results and several fact sheets. The letter explains your test results and provides general health guidance. If you require assistance interpreting your drinking water test results or have health related questions, please contact the DHD#10 at 231-876-3823, or the MDHHS at 800-648-6942.

7. My drinking water contains PFAS. What should I do?

MDHHS advice is based on the best available science and, per the EPA Lifetime Health Advisory, protective of everyone, including pregnant women, young children, and the elderly. When concentrations exceed the EPA Lifetime Health Advisory Level of 70 ppt for PFOA and PFOS (singly or combined total concentration), the DHHS recommends bottled water or filters. **When detections are lower than the EPA level, 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.** A thorough investigation is needed 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.

Through state funding, DHD#10 is providing the 3-Stage Claryum Under Counter Max Flow filtration system (AQ 5300+), certified by the National Sanitation Foundation (NSF) to reduce PFOA and PFOS by 96 percent (%). It comes with an additional set of replacement cartridges to provide effective water filtration for one year. You may install this filtration system yourself, or DHD#10 will arrange for a plumber to install it for you at no charge. You will need to be home for the installation. Learn more about the filtration system at www.aquasana.com/drinking-water-filter-systems/under-counter-faucet-3-stage-max-flow.

In addition, the City of Grayling is continuing to offer free drinking water available at the Grayling City Hall, located at 1020 City Boulevard. Access to potable drinking water is available daily from 7:00 a.m. to 5:00 p.m. Additional information may also be obtained by contacting DHD#10 at 231-876-3823.

8. Why am I not receiving a whole-house filtration system form my home?

At this time, there is no whole-house filtration system that is NSF-certified to remove PFAS from drinking well water. To remove PFAS from drinking water, the flow rate of the water must be slowed way down, allowing the granular activated carbon inside the filtration cartridges to capture the PFAS. The AQ 5300+ filtration system (the filtration system currently provided to Grayling residents with PFAS detection) uses a compressed carbon block to slow the water flow rate down to .72 gallons per minute, maximizing the ability of the filtration cartridges to do their job of removing PFOA and PFOS by 96% for a period of six months before needing replacement cartridges. This system is the first to be NSF-certified for effectively removing PFOA and PFOS from drinking water.

A whole-house filtration system must process a much higher, faster water flow rate of 7 gallons per minute. While the whole-house unit does utilize granular activated carbon, the faster water flow rate is not slowed down enough for it all to come in contact with the carbon in order to remove PFOA and PFOS at the same level as the 5300+ unit.

Another point to consider for a whole-house filtration system is that the water flow will be much slower, make bathing, showering, laundry, and other uses more difficult. Because there is granular activated carbon inside the whole-house filtration system, PFOA and PFOS are being removed from the water, but it is unknown by how much, and for how long, which renders it uncertified by NSF at this point in time.

Since potential health impacts of PFAS occur only through ingestion, the MDEQ and MDHHS recommend an NSF-certified water filtration system for drinking water.”

9. I have a filtration unit in my home, but the water is so slow. Why is that?

The water coming out of the faucet must be slowed way down for the filtration system to effectively capture the PFAS and remove it. While this may be an inconvenience, it is necessary for your drinking water to be properly filtered for safe ingestion.

10. What if a home has been vacant for over a year? If the water has not been used, would the sample be affected?

Having standing water in a well might potentially cause a false negative, however given that these chemical compounds do not readily break down in the environment, the same could be true of standing water in the well.

It is possible that an unused well would not show contamination if that well was not in the direct path of groundwater flow from a source of this contamination. However, when in use, the well pulls the contaminant out of its normal flow pattern and into the well. Individual results may vary depending upon the direction, depth, and distance of the drinking water well from source(s) of this contamination.

11. How is it possible for residents to have different test results if everyone is getting their water from the same aquifer? If PFAS are in the groundwater, wouldn't everyone be impacted?

The aquifer in the area is considered sand. Sand comes in difference "grain sizes": very fine sand, coarse sand, sand mixed with silts, sand and gravel, etc. Water will flow through the coarser material easier than the fine grained and/or sand with silt. This is known as permeability. The soil in the area was created as glaciers moved, slowed/stopped, melted, and then moved again, laying down the various types of soils. The "glacial till," as it is called, is known for depositing various types of soil and mixes of soil. Depending on where the melting and movement occurred, you can have a variety of different soil types. This will affect how the water, and therefore the contaminants, move in the aquifer.

Individual results may vary depending upon the direction, depth, and distance of the drinking water well from source(s) of this contamination.

It is also possible given the widespread use of these compounds in consumer products that some positive results may be due to these chemicals being present in plumbing components and not originating from a distant source.

These substances could even be discharged into onsite wastewater systems (septic tanks and tile fields) at a home and re-enter the aquifer.

NOTE: This fall, the DEQ will be performing "vertical aquifer sampling", which means we will be performing several borings in the Grayling area. The soil will be analyzed to see exactly what soil types we are dealing with as well as sampling the water in each boring at various depths to try and determine how the chemicals are moving, both horizontally and vertically, in the aquifer. This information will help determine where the more permeable zones are as well as assist in determining where permanent monitoring wells will be placed to allow for the tracking of these chemicals in the groundwater.

12. How do we know if the source of PFAS in my well is from the firefighting foam?

Three PFAS are commonly found where AFFF (Aqueous Film Forming Foam) have been used. These are PFOA, PFOS, and PFHxS. If these 3 compounds are found in a well sample, there is a possibility it could be from the use of AFFF.

13. May I bathe or swim in water containing PFAS?

You may bathe and swim in water containing PFAS. The PFAS do not easily absorb into the skin. It is safe to bathe, as well as doing your laundry and household cleaning. It is also safe to swim in and use recreationally. Getting water with PFAS on your skin will not harm you.

14. What are the health effects of drinking water containing PFAS?

If you are concerned about exposure to PFAS in your drinking water, please contact the MDHHS Toxicology Hotline at 1-800-648-6942, or the DHD#10 at 231-876-3823.

Additionally, if you have medical questions, talk to your doctor. Information is available in the PFAS Clinician Guidance document available at www.atsdr.cdc.gov/pfc in the "Additional Resources" section of the web page.

For additional information please visit the Camp Grayling Website (www.Michigan.gov/campgrayling), for an ATSDR – PFAS Fact Sheet concerning PFAS in drinking water.

15. Where do I go for a different source of drinking water?

Residential well sampling indicates that some wells have detections of PFAS. MDHHS advice is based on the best available science and, per the EPA Lifetime Health Advisory, protective of everyone, including pregnant women, young children, and the elderly. When concentrations exceed the EPA Lifetime Health Advisory Level of 70 ppt for PFOA and PFOS (singly or combined total concentration), the DHHS recommends bottled water or filters. When detections are lower than the EPA level, 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. A thorough investigation is needed 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. Residents who are concerned about the quality of their drinking water well may obtain free water from the Graying City Hall. The hall is located at 1020 City Boulevard, where water is available daily from 7:00 a.m. to 5:00 p.m. Residents may bring their own clean containers, or pick up containers for filling at City Hall. The water containers were donated by Family Fare.

16. Do plants hold the PFAS? If so, how long?

The Minnesota Department of Health conducted studies where people's gardens were watered with PFAS-contaminated water. In some cases, the soil also had PFAS in it. The results suggested the plants did not absorb PFAS very well and did not contain amounts of PFAS that could harm public health.

17. Are my pets and livestock at risk?

The U.S. EPA has established lifetime health advisory levels for PFOA and PFOS for drinking water used by people. These health advisory levels have not been formulated specifically for pets or livestock. If your drinking water levels exceed U.S. EPA's lifetime health advisory level of 70 ppt for PFOA and PFOS combined, then it should be assumed that pets and livestock may be at risk, and alternative water supplies should be used.

18. Is there anything I can do to protect my animals?

Have your drinking water well tested for PFAS. If your drinking water is deemed safe for human consumption, it would also be safe for your pets or livestock. If your drinking water contains PFAS equal to or higher than U.S. EPA's lifetime health advisory level, then the best way to avoid PFAS is to seek an alternate water supply such as a municipal water source, or install a water filtration system certified to remove PFOA and PFOS. Additionally, bottled water could be used for small animals.

19. What should I do if I suspect my animal is affected?

Contact a veterinarian to perform a physical exam if you suspect that your pet or livestock is experiencing liver, kidney, immune response, or reproductive issues. There may be other causes, apart from PFAS, that may cause issues with the liver, kidney, immune response, or reproductive system. Work with your veterinarian to conduct relevant diagnostic tests.

20. What other ways could I be exposed to PFAS?

PFAS are used in many consumer products. They are used in food packaging, such as fast-food wrappers and microwave popcorn bags; waterproof and stain-resistant fabrics, such as outdoor clothing, upholstery, and carpeting; nonstick coatings on cookware; and cleaning supplies, including some soaps and shampoos. People can be exposed to these chemicals in house dust, indoor and outdoor air, food, and drinking water. Usually the amounts of PFAS a person may be exposed to are quite small.

21. What is the timeline to resolve this situation?

State and local agencies are actively working to obtain more information about this situation as quickly as possible. Testing is currently underway in and around the affected area, which will provide important data to help us answer more questions and determine next steps.

22. How can I stay updated on the situation?

For more information, please visit the [Camp Grayling Web site \(www.michigan.gov/campgrayling\)](http://www.michigan.gov/campgrayling), for the most up-to-date information on the situation. Using this Web site, you can send an inquiry to any state agency. You can also call DHD#10 at 231-876-3823 or the MDEQ's Environmental Assistance Center at 800-662-9278.

In addition, the state has created a [web site \(http://michigan.gov/pfasresponse\)](http://michigan.gov/pfasresponse) where you can find information about PFAS contamination and efforts to address it in Michigan. The site will be updated as more information becomes available. The web site address is <http://michigan.gov/pfasresponse>.

Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making.

Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.