

PFAS Frequently Asked Questions

What is PFAS? PFAS (Perfluoroalkyl substances) is a "forever chemical" designed to be resistant to biological, chemical, and thermal breakdown. It is found in many products, such as non-stick pans, water repellent fabrics and application, microwave popcorn, pizza boxes and even some brands of dental floss. It is also found in firefighting foams used by some fire departments, and at all commercial service airports in the United States. Because PFAS is used in so many applications, most Americans have some level of PFAS in their bloodstreams.

Why is PFAS used at Airports? The FAA currently requires all fire departments at airport served by airlines to use Aqueous Film Forming Foam (AFFF) containing PFAS to extinguish aircraft fires. AFFF with PFAS is required by the FAA because it is extremely stable and does not react with other chemicals, including jet fuel. AFFF extinguishes fires by sequestering fuel sources from oxygen, thus preventing them from reignition.

Why is PFAS a problem? PFAS has not been classified by the EPA as a hazardous substance or a carcinogen. However, some studies have linked PFAS exposure to health issues. More studies are underway, and EPA is considering such a listing."

What is being done regarding AFFF use at airports nationally? The FAA is currently looking into the certification of a firefighting foam that does not contain PFAS with a goal of 2023 to find a replacement. Until the FAA approves such a product, all US commercial service airports are legally required to have and use AFFF for aircraft firefighting.

What has been done at the JH Airport? JH Airport's fire department updated its training practices several years ago to eliminate active sprays of AFFF. Though periodic tests are still required by the FAA to determine the product's usefulness, AFFF is now contained during these tests, and not released into the environment.

In the event of a direct, fire-related life safety moment, AFFF would be deployed to save lives. However, JH Airport's procedures after an emergency event have also been updated to contain the spread of AFFF.

What more is being done at the JH Airport? JH Airport has worked with environmental consultants who are experts in PFAS to determine where PFAS exists on and off the Airport as a result of prior use of AFFF. We learned that PFAS does exist in some monitoring wells on the Airport and in domestic wells in areas surrounding the airport. We continue to work with the consultants to monitor off-Airport water wells and to determine next steps for PFAS mitigation and remediation.

Does my home water filtration system work for PFAS? Many household filters, such as sand and granular activated carbon (GAC) are only partially effective at removing PFAS from drinking water.

Will the Board purchase a water filter for my domestic water well? The Airport tested and found PFAS in some domestic water wells in the "Phase 1" neighborhood directly adjacent to the Airport. Only one well in this area tested above the EPA's original advisory limit of 70 ppt - and that was at 70.3 ppt. Nonetheless, because this area is so close to the Airport, in an exercise of caution the Board offered to purchase, upon request, point-of-entry treatment (POET) water filters for all homes located with the Eligibility Boundary.

Why did the Board originally choose a filtration installation threshold of 10 ppt? Though the past EPA advisory limit for PFAS in drinking water was 70ppt, and that standard was relied upon by the Wyoming Department of Environmental Quality, several states have established lower standards. A threshold of 10 ppt mirrored the most stringent regulatory standard currently adopted by any jurisdiction in the United States. This option was the most proactive choice the Board could make for the community and the Airport at that time. Due to updated EPA standards in June of 2022, the Board expanded the Eligibility Boundary for filtration systems.

Does the original threshold set by Board include both PFOS and PFOA? Yes. The Board's past recommendation for a threshold accounted for 10 ppt threshold for PFOA, 10 ppt threshold for PFOS, and 10 ppt threshold for combined PFOA and PFOS.

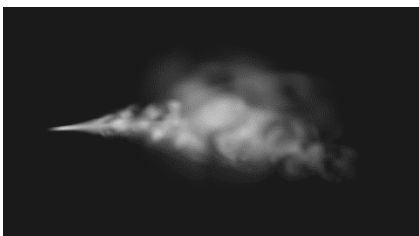
What did the Board do to account for the new advisory limits set by the EPA on June 15, 2022? The Airport expanded the Eligibility Boundary to include all domestic wells located within an area in which any detectable amount of PFAS has been found or is expected to occur

Is it Possible the Board will have to re-visit the threshold limit in the future? Yes. Because the EPA has not yet classified PFOS/PFOA as a hazardous substance or identified a regulatory limit (as opposed to an "advisory" threshold), it may be necessary to reevaluate the threshold in the future if the EPA implements more stringent guidelines.

What is the "Allowance for Variability" when referring to the 10ppt threshold? The Airport's environmental consultants, Mead & Hunt, recommend adding an "allowance for variability" to determine the wells eligible for filter installation when applying the original 10ppt boundary. What this means is, if any portion of the associated property is expected to have PFAS in groundwater at or above 10ppt, the homeowner would receive an offer to have a filtration system installed.

Will the Airport continue to monitor wells that have already been tested? Yes. The Airport will continue to test monitoring wells on-airport. Additionally, up to 20 have been selected using scientific data for continued monitoring throughout the wet and dry seasons.

Where is the plume and is it moving? A plume is a pattern of contaminant concentrations in groundwater that moves in the direction of the groundwater flow. A plume is typically narrowest and most concentrated at the source of the contaminants, and widens, decreases, and varies in concentration as it dissipates away from the source.



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This graphic of smoke injected into a stream of air illustrates how a groundwater plume may also behave. The concentrated smoke enters the airstream at the source area and then moves downstream with the flow. As it does, the smoke moves faster and is more concentrated in the center of the plume and is slower and begins to disperse in the outside areas of the plume. The smoke concentrations in the plume become more dispersed and variable the farther the moves from the source. An added factor in groundwater plumes is the nature and variability of the geological material (soil, sand, gravel, cobbles, and different types of porous rock) that are encountered. Because water always seeks the path of least

resistance, groundwater frequently follows “channels” that affect its direction, dispersion, and speed of movement.

The JAC plume is traveling along a relatively fast-moving groundwater channel and appears to have retained its shape to date. As the groundwater moves through the source area, it picks up PFAS and transports it along the channel as it flows through the residential areas. The plume diffuses as it encounters pathways with less resistance. In addition, groundwater flows and water depths vary with the seasons, which can affect not only the speed of groundwater flow but also how and where it disperses. As a result, we see concentrations at different locations in the plume varying with time as well as distance from the source area in ways that are difficult to predict.

Why are the results going up and down? The results at any well in the plume area depend upon not only the amount of PFAS remaining in the source area, but also the amount of groundwater flowing through the area and the pathways it is taking at any given time. Because groundwater is replenished by rainfall and snowmelt, the depth, flow rate, and path of groundwater are often affected by seasonal hydrology. Variability in concentrations is inherent in groundwater investigations and the long-term goal is a trend of decreasing concentrations.

Does seasonality (water levels) play a major role in the fluctuating results? Because groundwater is replenished by rainfall and snowmelt, the depth, flow rate, and path of groundwater are often affected by seasonal hydrology. At this time, there are not enough data points to state definitively whether seasonality is a factor in the results going up and down. We continue to monitor and sample wells to add data that will address this question.

Is the plume moving enough that the Eligibility Boundary (EB) will need to be expanded? We are compiling the data collected to date and will review the original EB. A new EB will be created as needed based upon the data. Residents will be alerted to changes in the EB.

What's next? In determining our next steps locally, JH Airport will maintain open communications with Wyoming DEQ, the Teton County Health Department, the FAA and other agencies to stay up to date with the latest information regarding a replacement for AFFF and changes to regulation.

Our number one priority at the JH Airport is the safety of our operations – both for passengers and the surrounding community. Along with safety, we also make environmental stewardship a vital part of everything we do. Once the FAA greenlights a replacement for AFFF, we will be making that change as soon as possible.