



Washington Aqueduct PFAS monitoring results



**A division of the Baltimore District,
U.S. Army Corps of Engineers**

Table of Contents

03 | Background

04 | PFAS monitoring results

07 | Results discussion

08 | CONTACT US

PFAS monitoring

Washington Aqueduct conducted a proactive sampling event on Oct. 18, 2022, to monitor for per- and polyfluoroalkyl substances (PFAS) compounds in finished water from its two treatment plants using U.S. Environmental Protection Agency (EPA)-approved methodology, to assess concentrations ahead of forthcoming EPA regulations.

PFAS are a group of thousands of man-made chemicals. They have been used in a variety of industries and consumer products around the globe, including in the United States, since the 1940s. They have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in certain foams used for fighting petroleum fires at airfields and in industrial fire suppression processes. PFAS are persistent in the environment, and some are persistent in the human body – meaning they do not break down quickly, and they can accumulate over time. PFAS are commonly detected in soils, air and drinking water sources due to their ubiquity in consumer and industrial products over many decades, as well as their persistent natures.

The presence of contaminants does not necessarily indicate that water poses a health risk. There is currently no established federal drinking water maximum contaminant level (MCL) for any PFAS, but Washington Aqueduct anticipates EPA will propose an MCL in the coming months. Washington Aqueduct will use the monitoring data from this sampling event to better prepare to meet EPA’s anticipated MCLs.

Washington Aqueduct is committed to producing high-quality drinking water for the District of Columbia, Arlington County, and parts of Fairfax Water’s service area. This includes staying abreast of emerging water quality issues and pertinent research, including EPA’s June 2022 interim and final health advisory levels (HA) for PFAS (<https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos>). The interim HAs are currently below current detectable laboratory limits.

Sampling results are provided in the attached table.

Washington Aqueduct is committed to meeting upcoming EPA national primary drinking water regulations for PFAS and will evaluate options to meet these requirements in tandem with its wholesale customers.

You can visit the EPA’s website at <https://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk> for steps you can personally take to reduce exposure to PFAS.

Washington Aqueduct PFAS Monitoring Results; Oct. 18, 2022

Table 1: Detected PFAS

Compound Name	MRL (ng/L)	Finished water PFAS results (ng/L)			
		Dalecarlia		McMillan	
		EPA 537.1	EPA 533	EPA 537.1	EPA 533
Perfluorobutanesulfonic acid (PFBS)	2.0	2.6	2.4	2.6	3.0
Perfluorobutanoic acid (PFBA)	2.0		3.0		3.0
Perfluorohexanesulfonic acid (PFHxS)	2.0	2.1	ND	ND	ND
Perfluorohexanoic acid (PFHxA)	2.0	3.4	3.4	3.3	3.9
Perfluorooctanesulfonic acid (PFOS)	2.0	ND	2.6	2.1	2.9
Perfluorooctanoic acid (PFOA)	2.0	2.3	2.4	2.2	2.5
Perfluoropentanoic acid (PFPeA)	2.0		4.5		5.2

Footnotes:

MRL - Minimum Reporting Limit

ng/L - nanograms per liter, also known as parts per trillion (ppt)

ND - Not Detected at the minimum reporting limit of 2.0 ng/L

Blank space - compound not included in EPA analytical method

Washington Aqueduct PFAS Monitoring Results; Oct. 18, 2022

Table 2: Analyzed for PFAS, but not detected

Compound Name	MRL (ng/L)	Finished water PFAS results (ng/L)			
		Dalecarlia		McMillan	
		EPA 537.1	EPA 533	EPA 537.1	EPA 533
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	ND	ND	ND	ND
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	2.0		ND		ND
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 FTS)	2.0		ND		ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.0		ND		ND
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	ND	ND	ND	ND
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.0	ND***	ND	ND	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.0	ND	ND	ND	ND
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.0		ND		ND
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.0		ND		ND
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.0		ND		ND
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.0		ND		ND

*** The compound was not detected and is less than the MRL. However, the associated numerical value is approximate.

Footnotes:

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Washington Aqueduct PFAS Monitoring Results; Oct. 18, 2022

Table 2, cont.: Analyzed for PFAS, but not detected

Compound Name	MRL (ng/L)	Finished water PFAS results (ng/L)			
		Dalecarlia		McMillan	
		EPA 537.1	EPA 533	EPA 537.1	EPA 533
N-ethylperfluorooctane-sulfonamidoacetic acid (NEtFOSAA)	2.0	ND		ND	
N-methylperfluorooctane-sulfonamidoacetic acid (NMeFOSAA)	2.0	ND		ND	
Perfluorodecanoic acid (PFDA)	2.0	ND	ND	ND	ND
Perfluorododecanoic acid (PFDoA)	2.0	ND	ND	ND	ND
Perfluoroheptanesulfonic acid (PFHpS)	2.0		ND		ND
Perfluoroheptanoic acid (PFHpA)	2.0	ND	ND	ND	ND
Perfluorononanoic acid (PFNA)	2.0	ND	ND	ND	ND
Perfluoropentanesulfonic acid (PFPeS)	2.0		ND		ND
Perfluorotetradecanoic acid (PFTA)	2.0	ND		ND	
Perfluorotridecanoic acid (PFTrDA)	2.0	ND		ND	
Perfluoroundecanoic acid (PFUnA)	2.0	ND	ND	ND	ND

Footnotes:

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Results discussion

Finished drinking water samples were collected from Washington Aqueduct's two water treatment plants on October 18, 2022, and analyzed for the presence of 29 PFAS compounds.

Robust quality control was employed, both in the sampling and in the chemical analysis. Additionally, the data were independently reviewed by a neutral third party.

Seven PFAS compounds were detected: PFBS, PFBA, PFHxS, PFHxA, PFOS, PFOA, and PFPeA.

The results provide a baseline that will be useful in determining the scope and quality control requirements of future PFAS monitoring efforts.

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