

# PFAS Removal Solution – US Military

## Filtration of highly contaminated water sources

**OVERVIEW** Advanced Mobile Filtration Services LLC (AMFS) provides highly efficient and effective solutions for removal of per - and polyfluoroalkyl substances (PFAS) from contaminated water derived from aqueous film forming foams (AFFF) and other manufacturing sources.

AMFS recently treated 100,000 gallons of PFAS and PFOA contaminated water that was stored in an underground storage tank at a mission critical, U.S. Air Force Base. AMFS used an advanced permanent RO membrane filter to process the fluid at a rate of 43,000 gallons per day. Unlike traditional methods, our filters do not need to be replaced, discarded in landfills, or incinerated. Instead, the filters incorporate vibratory technology that prevents clogging without using any chemicals. This allows AMFS to maintain a high flow rate with low pressure, ensuring efficient, sustainable filtration.

On site, the contaminated water was pumped to a frack tank and then into our AMFS mobile unit. There, it was processed to remove six key contaminants—including PFAS, PFOA, GenX, PFHXS, PFNA, PFBS—and several heavy metals.

The initial contaminant levels exceeded 245,000 parts per trillion, far above the EPA’s 1633 standards for drinking water. After processing the 100,000 gallons, all six contaminants were reduced (see results on right), meeting the client’s requirements and surpassing EPA and DoD standards.

**The AMFS system employs patented permanent membrane separation technology.** Nano and Reverse Osmosis permanent membrane filters can both be utilized when filtering per - and polyfluoroalkyl substances (PFAS) or (PFOA) from contaminated water sources. AMFS Nano and RO filtration membranes can filter > (0.001µm – 30 Daltons) using low-pressure to obtain high-volume flow rates (75 - 125+ gpm). Unlike traditional spiral-wound filter systems, AMFS’s vibration technology keeps its permanent membranes from fouling and can remove the smallest entrained solids. Depending on the type of fluids filtered, flow rates will vary.

The two-phase system separation rejects particle sizes from the feed water, resulting in a concentrated discharge for disposal/handling. A potable or near potable water effluent can be reused as needed or disposed of on location to a municipal wastewater treatment plant.

**AMFS has the ability to filter many substances.** In addition to per - and polyfluoroalkyl substances (PFAS), we have filtered Arsenic, Selenium, Ammonia, Bromide, viruses and bacteria from oily water, bilge water, groundwater remediation, fuel tank storage, and landfill leachate. AMFS filtration system can also create potable water from contaminated waters.



### AMFS per - and polyfluoroalkyl substances Third party results – November 1, 2024

*eurofins Environmental Laboratories—an EPA and DoD certified lab—reported that **AMFS’s filtration process**, tested under the EPA 1633 protocol for this project, reduced PFAS and their derivatives to non-detectable levels.*

Results listed as follows:

Contaminant	Feed (PPT)	EPA Drinking Water Target (PPT)	Permeate (PPT)	Percent Contaminant removed from Feed
(PFOS)	230,000	≤4.0	0.77	99.999997%
(PFOA)	3,400	≤4.0	0.93	>99.97%
(GENX)	130	≤10.0	0.93	N/A
(PFHxS)	10,000	≤10.0	0.93	>99.991%
(PFNA)	990	≤10.0	0.93	>99.91%
(PFBS)	910	≤10.0	0.70	>99.8%

## AMFS

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