

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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Memorandum

To: Jeff Crawford, Director, Bureau of Air Quality

From: Stacy Knapp, Director, Division of Air Quality Assessment

Date: August 19, 2026

Re: Brunswick PFAS ambient air results from November 2024 and April 2025 sampling events

Summary:

To assess the potential for ongoing air exposures following the aqueous film-forming foam (AFFF) release at the former Brunswick Naval Air Station (BNAS) on August 19, 2024, Maine DEP investigated potential ambient air sampling methods for the per-and polyfluoroalkyl substances (PFAS) compounds found in AFFF. Ambient air sampling for PFAS was new to Maine Department of Environmental Protection (Maine DEP), and a method used by the Minnesota Pollution Control Agency (MPCA) was selected for use in this study. Maine DEP staff completed two sampling events, one in November 2024 and a second in April 2025. The second round of testing was conducted to assess whether PFAS concentrations were increasing, decreasing, or remaining constant over time and at different ambient temperatures. A total of five 72-hour ambient air samples were collected in Brunswick for PFAS analysis. An additional 72-hour ambient air sample was collected in Acadia National Park in Bar Harbor to better understand background levels of PFAS in ambient air without a known PFAS source. Using high-volume air samplers, over 390,000 liters of air were sampled by each instrument during each of two sampling periods, which allowed for the detection of very low levels of PFAS in ambient air. Laboratory analysis results indicated low ambient air concentrations of several PFAS compounds found in AFFF. Results from the first round of sampling in November 2024 were higher than PFAS concentrations measured in April 2025. The PFAS levels measured in April 2025 were similar to levels measured in Bar Harbor and may reflect background levels of PFAS in ambient air.

Nearly all PFAS compounds detected in the samples were found at concentrations well below provisional health-based air screening levels. One compound, PFOA, was detected at concentrations slightly above the provisional cancer screening level during both sampling events, but the measured PFOA concentration in Brunswick was similar to the level measured in Bar Harbor. This screening level is conservatively based on an ambient air level that will result in only a small increase in cancer risk (cancer risk of 1-in-100,000) assuming lifetime exposure at this air level. Based on separate calculations, analysis of PFOA data suggests that exposure at the level found in ambient air at BNAS is not likely to result in any measurable increase in blood levels over expected current background blood levels in the U.S. population.

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Methods:

There are no established EPA or regulatory methods for monitoring or analyzing ambient air concentrations of PFAS; however, a few states, organizations, and analytical laboratories have investigated and conducted ambient air PFAS sampling and analyses. Maine DEP researched a number of methods, including passive sampling, traditional source emissions testing, and high-volume ambient air sampling methods. Maine DEP selected the high-volume sampling method and analytical laboratory used by the MPCA¹ because this method was found to be able to reliably sample a large volume of ambient air and analyze for 30 targeted PFAS compounds relatively quickly. Table 1 lists the PFAS compounds targeted with this method. The MPCA utilized a modified version of Environmental Protection Agency (EPA) Method TO-4A for sample collection.

Table 1. PFAS compounds (30) targeted for analysis with modified version of EPA Method TO-4A

PFBA	PFTeDA	6:2 FTS
PFPeA	PFBS	8:2 FTS
PFHxA	PFPeS	PFOSA
PFHpA	PFHxS	N-MeFOSA
PFOA	PFHpS	N-EtFOSA
PFNA	PFOS	MeFOSAA
PFDA	PFNS	EtFOSAA
PFUnDA	PFDS	N-MeFOSE
PFDoA	PFDoS	N-EtFOSE
PFTrDA	4:2 FTS	HFPO-DA

Method TO-4A is traditionally used to analyze semi-volatile organic compounds, airborne particulates, and vapor contamination from pesticide and polychlorinated biphenyl (PCB) compounds. The method specifies use of a quartz fiber filter followed by a glass sample cartridge filled with a single polyurethane foam (PUF) plug as sample media within a high-volume air sampler. Known as HiVol PUF air samplers, these instruments sample ambient air at a rate of 125 to 250 liters per minute.

The modified version of Method TO-4A developed to collect PFAS from sampled ambient air still uses the quartz fiber filter and a glass sample cartridge; however, it replaces the single PUF media layer with a PUF and XAD-2 adsorbent resin (polymer of styrene divinylbenzene) “sandwich” (PUF/XAD-2/PUF). The sampling rate is also slightly reduced in the modified version, from 225 liters/minute to 120 liters per minute. Using this sampling method, particulate and particulate-bound compounds are collected on the quartz fiber filter, while compounds in ultrafine particle (< 0.1 µm) and vapor form are collected within the PUF sandwich. Specifically, the quartz fiber filter collects particulate matter within the air sample

¹ Minnesota Pollution Control Agency. PFAS Air and Deposition Monitoring Report. April 2022. Available at: <https://www.pca.state.mn.us/sites/default/files/tdr-g1-23.pdf>.

up to 50-100 μm in size. HiVol samplers are not size-selective for particulate, but the upper size boundary for particles suspended in ambient air is 50-100 μm . The porosity of the quartz filter is 0.1 μm ., so most particulate-bound PFAS will be collected on the quartz filter. The rest of the air sample then passes through the PUF/XAD-2/PUF “sandwich” where smaller “ultrafine” particulate matter (< 0.1 μm) and vapors that are able to pass through the quartz filter are collected. Ultrafine particulate matter is trapped within the front PUF layer, and volatile compounds adsorb to the XAD-2 resin. The back PUF layer is included to detect breakthrough of PFAS past the XAD-2 resin. Specific sampling rates and collection periods are used to prevent breakthrough² and ensure all PFAS are collected within the sample media.

To complete the ambient air sampling for PFAS in this study, EPA lent three HiVol PUF samplers to Maine DEP. Air sampling media were provided to Maine DEP by the contracted analytical laboratory, SGS AXYS Analytical Services Ltd (SGS AXYS).³ Air sampling media was spiked with standards by SGS AXYS prior to deployment. The recovery of the spiked standards is used to monitor sampling efficiency.

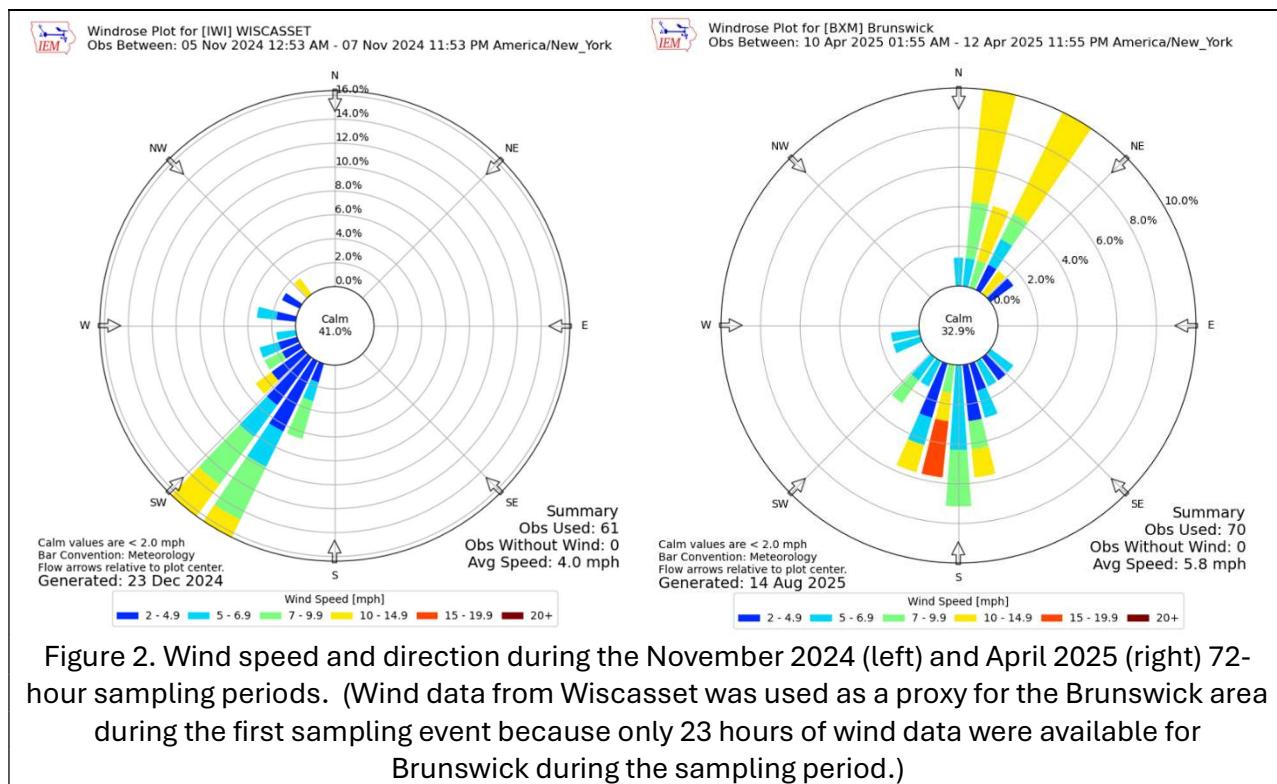
Two locations in Brunswick were identified as initial sampling locations. The first location was just outside on the grass at the northeast corner of TechPlace, the facility adjacent to Hangar 4, which was the origin of the AFFF release. The second location identified was the roof of the Brunswick-Topsham Land Trust building, northeast of the retention pond and adjacent to where soil samples with elevated levels of PFAS were discovered. Figure 1 shows these two sampling locations on a map. Figure 2 illustrates the predominant wind speed and direction during each of the two sampling events.



Figure 1. The two Brunswick sampling locations (indicated by yellow arrows). Two samples were collected on the roof of the Brunswick-Topsham Land Trust building in both November 2024 and April 2025 (Samplers 1 & 2). An additional sample was collected at the northeast corner of TechPlace (Sampler 3) in November 2024.

² Breakthrough refers to when a filter or adsorbent material is saturated, damaged, and/or losing its ability to effectively capture the analyte.

³ <https://www.sgsaxys.com/>



For each sampling event in Brunswick, DEP air monitoring staff identified a 72-hour period with projected west and southwest winds without rain, which were the meteorological conditions expected to lead to the highest detection of ambient air PFAS in the identified sampling locations. Following the procedure developed by the MPCA, samples were collected over a continuous 72-hour duration.

The initial round of sampling started at midnight, the morning of November 5, 2024, and included one sample near TechPlace and two collocated samples on the roof of the Brunswick-Topsham Land Trust building. A second round of testing was conducted in Brunswick five months later to assess whether PFAS concentrations were increasing, decreasing, or remaining constant over time and at different ambient temperatures. This second round of sampling began at midnight, the morning of April 10, 2025, and included two collocated samples on the roof of the Brunswick-Topsham Land Trust building as well as one sample in Acadia National Park in Bar Harbor.

The ambient air sample collected in Bar Harbor was included to better understand levels of PFAS in ambient air without a known PFAS source. The sample was collected at the Maine DEP National Core (NCore)⁴ network site at McFarland Hill in Acadia National Park. This is a federally designated rural or background ambient air monitoring site within the NCore network, a site where a range of monitoring instruments are used to make health and ecosystem assessments. Acadia National Park is also a Class 1 air quality area, which means it has been

⁴ <https://www.epa.gov/amtic/ncore-monitoring-network>

specifically identified by Congress in the federal Clean Air Act as worthy of extra protection due to unique visual, ecological, or social values.

Field quality control practices

Following standard quality control practices, two field blank samples were included for each of the sampling events to ensure accurate measurements. Field blank samples were taken into the field alongside the ambient air samples, placed into the HiVol samplers, then immediately removed without additional exposure to the sample media, in this case, high volumes of ambient air. These field blank samples were used to identify possible contamination from transport, field conditions, or sample handling that might have interfered with the results. During both the November and April sampling events, two HiVol PUF samplers were collocated together at the Brunswick-Topsham Land Trust building site in order to assess variability between collocated samples. During the November sampling event, one of the collocated samples on top of the Brunswick-Topsham Land Trust building stopped sampling at 59 hours due to an electrical issue. Over 390,000 liters of air were sampled by each instrument during each sampling period.

Sample analysis

After sample collection, the sampling media were returned to SGS AXYS and analyzed by SGS AXYS Method MLA-076 for PFAS in ambient air, a proprietary method similar to EPA Method 1633.⁵ Following this method, each air sampling media unit was separated into three sections for independent extraction and analysis: the quartz fiber pre-filter, the front portion of the “sandwich” containing the first layer of PUF and the XAD resin, and the back portion of the “sandwich” containing the second layer of PUF. The instrumental analysis was performed by ultra high-performance liquid chromatography/mass spectrometry (UPLC-MS/MS). Results were reported in nanograms (ng) per sample, and ambient air concentration calculations were completed by Maine DEP based on the total volume of air sampled. (Note: while one of the collocated samples on top of the Brunswick-Topsham Land Trust Building stopped sampling at 59 hours during the November sampling event, the concentration calculation included only the volume of air sampled by this instrument, so these results are still comparable to the other two samples.)

Results:

PFAS detected in ambient air samples

Of the 30 PFAS compounds targeted with the analysis method, the following 10 compounds were not found above method detection limits (MDL) for any study sample: PFTeDA, PFHpS, PFNS, PFDS, PFDOS, 4:2 FTS, 8:2 FTS, MEFOSAA, N-ETFOSE, HFPO-DA. Table 2 lists the number of targeted compounds detected above the MDL in each of the analyzed samples.

⁵ Mills, M. Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS. US Environmental Protection Agency, Cincinnati, OH, 2022

https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=356428

Table 2. Number of targeted PFAS compounds detected above the MDL

Sample location	November 2024	April 2025
Brunswick-Topsham Land Trust Building #1	14	12
Brunswick-Topsham Land Trust Building #2	14	11
TechPlace	19	
Bar Harbor (Acadia National Park)		11

Total sample results for PFAS compounds of particular interest in this study for each of the three Brunswick samples in the November 2024 initial round of testing are listed in Table 3. April 2025 sampling results for both Brunswick samples as well as the Bar Harbor background sample are listed in Table 4. All results are reported in nanogram per cubic meter (ng/m³) to be consistent with the mass units reported for sampling results in other media related to the BNAS AFFF release.

Table 3. November 2024 Brunswick PFAS ambient air sample results

PFAS	Brunswick-Topsham Land Trust Building #1 (ng/m ³)	Brunswick-Topsham Land Trust Building #2 (ng/m ³)	TechPlace (ng/m ³)
PFBS	0.002	0.004	0.003
PFBA	0.072	0.066	0.064
PFDA	<MDL ⁶	<MDL	0.001
PFDoA	<MDL	<MDL	0.000
PFHxS	0.005	0.005	0.003
PFHxA	0.025	0.021	0.021
PFOS	0.016	0.014	0.018
PFOA	0.007	0.012	0.008
PFTeDA	<MDL	<MDL	<MDL
PFUnDA	<MDL	<MDL	0.001
6:2 FTS	0.051	0.043	0.026

⁶ MDL = method detection limit.

Table 4. April 2025 Brunswick and Bar Harbor PFAS ambient air sample results

PFAS	Brunswick-Topsham Land Trust Building #1 (ng/m ³)	Brunswick-Topsham Land Trust Building #2 (ng/m ³)	Bar Harbor (ng/m ³)
PFBS	0.004	0.004	0.005
PFBA	0.052	0.046	0.053
PFDA	<MDL	<MDL	<MDL
PFDoA	<MDL	<MDL	<MDL
PFHxS	0.003	0.003	0.003
PFHxA	0.005	0.004	0.002
PFOS	0.009	0.008	0.007
PFOA	0.002	0.003	0.002
PFTeDA	<MDL	<MDL	<MDL
PFUnDA	<MDL	<MDL	<MDL
6:2 FTS	0.004	0.004	<MDL

Comparison of collocated samples during both the November 2024 and April 2025 sampling events show general good agreement. All three samples collected in Brunswick during November 2024 also produced similar results.

Overall, results show slightly elevated PFAS concentrations in November 2024 when compared to results from the subsequent April 2025 sampling event. Results from the second round of sampling in Brunswick demonstrated appreciably lower ambient air PFAS concentrations, with levels approaching the background concentrations detected in Bar Harbor.

The highest concentrations detected in Brunswick in November 2024 were of PFBA. 6:2 FTS had the second highest concentration results, followed by PFHxA with the third highest. While PFBA remained the compound with the highest concentration detected in Brunswick during the April 2025 sampling event, the April 2025 concentration was 27% lower than the November result and was the same level as that detected in Bar Harbor. 6:2 FTS dropped out of the top three highest concentration compounds, replaced by PFOS in April 2025. PFHxA remained the compound with the third highest concentration detection; however, the concentration was 50% lower in April 2025 than detected in November 2024.

While not in the group of compounds with the highest detected concentrations, analysis of April 2025 Brunswick ambient air samples show PFOS concentrations were 50% lower than levels detected in the same location in November 2024 and were similar to those measured at Bar Harbor background site in April 2025. PFOA and 6:2 FTS results show an even greater decline. The maximum PFOA concentration found in Brunswick in April 2025 was 75% lower than the maximum concentrations found in Brunswick November 2024. The PFOA concentrations detected in April 2025 Brunswick samples were similar to results from Bar Harbor collected at the same time. The 6:2 FTS maximum concentration found in Brunswick

was 92% lower in April 2025 than it was in November 2024, while the Bar Harbor concentration was below the MDL.

Health Assessment

To better understand the public health significance of the results, Maine DEP consulted with the Maine Center for Disease Control (Maine CDC). As there are no ambient air guidelines for PFAS compounds, the Maine CDC developed provisional health-based screening levels based on the most recent toxicity data available from EPA. The lowest toxicity values available were used in order to be most conservative and health protective in the interpretation of the findings. These provisional screening levels are not regulatory and are not enforceable. The cancer-based guidelines assume exposure over decades, and there is uncertainty in estimating long-term exposure from just one or two short-term sampling events. Maximum concentration results from both sampling events compared to the provisional health-based screening levels are listed in Table 5.

Table 5. PFAS results compared to provisional air screening levels

PFAS	Non-Cancer Air Screening Level (ng/m3)	Cancer* Air Screening Level (ng/m3)	Brunswick Max November 2024 (ng/m3)	Brunswick Max April 2025 (ng/m3)	Bar Harbor Max April 2025 (ng/m3)
PFBS	1050	--	0.004	0.004	0.005
PFBA	3500	--	0.072	0.052	0.053
PFDA	0.007	--	0.001	<DL	<DL
PFDoA	175	--	0.000	<DL	<DL
PFHxS	70.0	--	0.005	0.003	0.003
PFHxA	1750	--	0.025	0.005	0.002
PFOS	0.350	0.886	0.018	0.009	0.007
PFOA	0.105	0.001	0.012	0.003	0.002
PFTeDA	3500	--	<DL	<DL	<DL
PFUnDA	1050	--	0.001	<DL	<DL
6:2 FTS	700	--	0.051	0.004	<DL

* 1/100,000 risk level

Interpretation of findings:

Analysis results from ambient air samples collected in Brunswick in November 2024, approximately three months after the AFFF release at the former Brunswick Naval Air Station, showed slightly elevated PFAS concentrations when compared to results from the subsequent April 2025 sampling event. Results from the second round of sampling in Brunswick, conducted approximately eight months after the release, demonstrated appreciably lower ambient air PFAS concentrations, with levels approaching the background concentrations detected in Bar Harbor.

For comparison, results from this study can be compared to the results of the Minnesota 2020-2021 study.⁷ As examples, the results of PFOA, PFOS, and 6:2 FTS concentrations for both studies can be found in Table 6. Both the PFAS mean and maximum concentrations found in November 2024 Brunswick samples were higher than Minnesota maximum values; however, the later April 2025 Brunswick maximum was lower than the Minnesota maximum. Maximum PFOA concentrations in Brunswick during both the November 2024 and April 2025 sampling events were lower than the maximum reported in the Minnesota study, and while Brunswick maximum concentrations of 6:2 FTS were higher than the Minnesota maximums in November 2024, the April 2025 Brunswick maximum value was lower.

Table 6. Comparison between Maine, Minnesota,⁸ and Northwest Europe⁹ PFAS concentrations found in ambient air

Sample	PFOA (ng/m ³)	PFOS (ng/m ³)	6:2 FTS (ng/m ³)
Brunswick Mean (November 2024)	0.009	0.016	0.040
Brunswick Maximum (November 2024)	0.012	0.018	0.051
Brunswick Mean (April 2025)	0.003	0.008	0.004
Brunswick Maximum (April 2025)	0.003	0.009	0.004
Bar Harbor (April 2025)	0.002	0.007	<MDL
Minnesota Median (July 2020 – June 2021)*	0.003	0.003	0.004
Minnesota Maximum (July 2020 – June 2021)*	0.024	0.015	0.016
Kjeller, Norway (Nov-Dec 2025)	0.002	0.001	0.000
Manchester, United Kingdom (Feb-March & Nov-Dec 2025)	0.178	0.027	0.005

* Includes data from 3 MN sites, with ~30 samples per site

For broader comparison, the concentration results from this Maine study can be compared to results from a 2005-2006 study in Northwest Europe.¹⁰ As examples, the results of PFOA, PFOS, and 6:2 FTS concentrations for both studies can be found in Table 8. Barber et al. found average levels of PFOA in ambient air samples from Kjeller, a rural site in Norway, that were similar to concentrations detected in both the Bar Harbor and Brunswick April 2025 samples. Average concentrations detected by Barber et al. in Manchester, a city in the United Kingdom, on the other hand, were higher. PFOS results from both Bar Harbor and Brunswick April 2025 samples were higher than Kjeller concentrations published by Barber et al. but lower than the Manchester average. Results for 6:2 FTS show similar ambient air concentrations for

^{7,8} Minnesota Pollution Control Agency. PFAS Air and Deposition Monitoring Report. April 2022. Available at: <https://www.pca.state.mn.us/sites/default/files/tdr-g1-23.pdf>.

^{9,10} Barber JL, Berger U, Chaemfa C, Huber S, Jahnke A, Temme C, Jones KC. Analysis of per- and polyfluorinated alkyl substances in air samples from Northwest Europe. J Environ Monit. 2007 Jun;9(6):530-41. doi: 10.1039/b701417a.

Brunswick April 2025 samples and Manchester sample means, while both Bar Harbor and Kjeller values were lower.

Nearly all PFAS compounds detected in the Maine study samples were found at concentrations well below provisional health-based air screening levels. One compound, PFOA, was detected at concentrations slightly above the provisional cancer screening level during both sampling events, but the measured PFOA in Brunswick is similar to the level measured in Bar Harbor. This screening level is conservatively based on an ambient air level that will result in only a small increase in cancer risk (cancer risk of 1-in-100,000) assuming lifetime exposure at this air level. Based on separate calculations, analysis of PFOA data suggests that exposure at the level found in ambient air at BNAS is not likely to result in any measurable increase in blood levels over expected current background blood levels in the U.S. population.

ADDENDUMCharacterization of PFAS in are as particle-bound, ultrafine particles, and vapor phase

Since each air sampling media unit was separated into three sections for laboratory analysis, Maine DEP compared the detected percentage of PFAS found in each section to better understand if either particulate-bound PFAS or volatile PFAS were more abundant in the collected ambient air samples. Most particulate-bound PFAS compounds were expected to be captured on the quartz fiber filter. Volatile PFAS compounds and PFAS compounds bound to ultrafine particulate matter were expected to be detected on the front PUF/XAD-2 section. Compounds able to break through the front PUF/XAD-2 were expected to be detected on the back PUF section. Table 7 includes the percentages of total sample detected on the quartz fiber filter, front PUF/XAD-2 media, and the back PUF layer.

Table 7. Percentage of detected PFAS found on each section of the total collected sample: quartz fiber filter, front PUF/XAD-2 media, and back PUF

PFAS	Brunswick #1 Nov 2024	Brunswick #2 Nov 2024	Tech Place Nov 2024	Brunswick #1 April 2025	Brunswick #2 April 2025	Bar Harbor April 2025
	ng (%)	ng (%)	ng (%)	ng (%)	ng (%)	ng (%)
PFBS	0, 100, 0	0, 100, 0	0, 100, 0	0, 100, 0	0, 100, 0	0, 100, 0
PFBA	5, 95, 0	0, 100, 0	3, 97, 0	5, 95, 0	4, 96, 0	4, 96, 0
PFDA	0, 0, 0	0, 0, 0	59, 41, 0	0, 0, 0	0, 0, 0	0, 0, 0
PFDoA	0, 0, 0	0, 0, 0	100, 0, 0	0, 0, 0	0, 0, 0	0, 0, 0
PFHxS	14, 86, 0	14, 86, 0	0, 100, 0	0, 100, 0	0, 100, 0	0, 100, 0
PFHxA	19, 81, 0	14, 86, 0	11, 89, 0	18, 82, 0	15, 85, 0	25, 75, 0
PFOS	48, 52, 0	46, 54, 0	57, 43, 0	23, 77, 0	25, 75, 0	6, 94, 0
PFOA	50, 50, 0	31, 69, 0	60, 40, 0	49, 51, 0	48, 52, 0	48, 52, 0
PFTeDA	0, 0, 0	0, 0, 0	0, 0, 0	0, 0, 0	0, 0, 0	0, 0, 0
PFUnDA	0, 0, 0	0, 0, 0	58, 42, 0	0, 0, 0	0, 0, 0	0, 0, 0
6:2 FTS	28, 72, 0	19, 81, 0	35, 65, 0	62, 38, 0	62, 38, 0	0, 0, 0

Notable differences between the two sampling events include a difference in fraction for PFHxS, PFOS, and 6:2 FTS. During the November 2024 sampling event in Brunswick, PFHxS was detected mostly in the front PUF/XAD-2 (86, 86, 100), and a small amount was detected in on the quartz fiber filter (14, 14, 0); however, during the April 2025 sampling event, all PFHxS was detected on the front PUF/XAD-2 media only. PFOS was detected in relatively equal proportions between the quartz fiber filter (48, 46, 57) and front PUF/XAD (52, 54, 43) in November 2024; however, during the April 2025 sampling event in Brunswick, the majority of PFOS detected was found in the front PUF/XAD-2 (77, 75) while a smaller fraction was found on the quartz fiber filter (23, 25). The sample collected in Bar Harbor also indicated that the majority of PFOS detected was found in the front PUF/XAD-2 component (94) compared to the quartz fiber filter (6). For 6:2 FTS detection in Brunswick, the November 2024 samples indicate majority detection in the front PUF/XAD-2 (72, 81, 65), while the April 2025 samples indicate majority detection in the quartz fiber filter (62, 62). There was no detection of 6:2 FTS in the

sample collected in Bar Harbor. It is unclear what may have contributed to these differences; however, environmental factors or long-range transport may play a role.

PFHpA was detected in the Brunswick-Topsham Land Trust Building #2 sample back PUF during the November 2024 sampling event. It was the only compound to be detected in the back PUF for all samples collected.

Quality control results – Field Blanks

Analysis results from the four field blank samples collected during the study showed minor PFAS contamination. Three target PFAS compounds were found in field blanks collected in Brunswick during sampling events in November 2024 and April 2025: PFHxA, PFHpA, and PFOA. Only PFHpA was found in the field blank collected in Bar Harbor during the April 2025 event. The mass of each PFAS compound detected in the field blanks is listed in Table 8. The source of field blank contamination is unknown, but it may be the result of field conditions or sample handling and transport.

Table 8. Mass of targeted PFAS compounds in field blank samples

PFAS	Brunswick-Topsham Land Trust Building #1 November 2024	Brunswick-Topsham Land Trust Building #2 November 2024	Brunswick-Topsham Land Trust Building #2 April 2025	Bar Harbor April 2025
	(ng/sample)	(ng/sample)	(ng/sample)	(ng/sample)
PFHxA	0.260	0.270	0.278	<DL
PFHpA	0.238	2.32	0.244	0.248
PFOA	0.225	0.304	0.205	<DL

Field blanks mass results are consistent around 0.2-0.3 ng/sample in Brunswick (except for PFHpA at Brunswick #2 in Nov 2024). Table 9 lists the mass of PFAS compounds measured in the ambient air samples associated with blank samples with PFAS detections, and Table 10 lists the percentages of the mass found in the blank samples compared to their associated ambient air samples. Given the high percentages of PFHpA detected in the field blanks, contamination of ambient air samples is possible for PFHpA detections.

Table 9. Mass of PFAS compounds in air samples for compounds detected in field blanks

PFAS	Brunswick-Topsham Land Trust Building #1 November 2024	Brunswick-Topsham Land Trust Building #2 November 2024	Brunswick-Topsham Land Trust Building #2 April 2025	Bar Harbor April 2025
	(ng/sample)	(ng/sample)	(ng/sample)	(ng/sample)
PFHxA	9.91	10.2	2.27	1.20
PFHpA	1.18	2.53	0.376	0.544
PFOA	2.58	6.02	1.60	0.840

Table 10. Percentage of PFAS detected masses in field blanks compared to ambient air sample

PFAS	Brunswick-Topsham Land Trust Building #1 November 2024	Brunswick-Topsham Land Trust Building #2 November 2024	Brunswick-Topsham Land Trust Building #2 April 2025	Bar Harbor April 2025
	(%)	(%)	(%)	(%)
PFHxA	2.62	2.64	12.3	
PFHpA	20.2	91.7	65.0	45.7
PFOA	8.69	5.05	12.8	

Quality control results – Lab Blanks

The lab blank associated with the November 2024 sampling event detected only one compound, PFHpA at 0.293 ng/sample. That amount is similar to the PFHPA mass detected in the field blanks, so lab contamination is possible for PFHpA detections. The lab blank associated with the April 2025 sampling event detected PFBA at 1.06 ng/sample. PFBA was not detected in the field blanks.

Table 11. Mass of PFAS detected in lab blank and associated samples (November 2024)

PFAS	Brunswick-Topsham Land Trust Building #1 November 2024	Brunswick-Topsham Land Trust Building #2 November 2024	TechPlace November 2024	Lab Blank November 2024
	(ng/sample)	(ng/sample)	(ng/sample)	(ng/sample)
PFHpA	1.18	2.53	1.51	0.293

Table 12. Mass of PFAS detected in lab blank and associated samples (April 2025)

PFAS	Brunswick-Topsham Land Trust Building #1 April 2025	Brunswick-Topsham Land Trust Building #2 April 2025	Bar Harbor April 2025	Lab Blank April 2025
	(ng/sample)	(ng/sample)	(ng/sample)	(ng/sample)
PFBA	26.0	23.8	27.3	1.06