

## EXECUTIVE SUMMARY

Weston & Sampson Engineers, Inc. (Weston & Sampson) was retained by the Connecticut Department of Energy and Environmental Protection (CTDEEP) to conduct sampling and analysis of select water pollution control facilities (WPCF) throughout the state of Connecticut to evaluate the presence of per- or polyfluoroalkyl substances (PFAS). This work is in response to recommended actions identified in the PFAS Action Plan issued in 2019 by the Governors Interagency PFAS Task Force.

Weston & Sampson collected influent, effluent, and sludge from 35 WPCF in late summer of 2021 and winter of 2022. Incinerator sludge and incinerator scrubber water samples were collected from 4 locations at the same time. Weston & Sampson also collected surface water and fish tissue samples at 10 locations in late summer of 2021.

The data collected indicate PFAS are present in all media analyzed. Twenty-nine (29) of the thirty four (34) individual PFAS quantified by the analytical method were detected in at least one sample. The most frequently identified PFAS are perfluorinated compounds ranging from 4 to 8 carbon length chains. Identified PFAS include each of the 4 PFAS with CT Drinking Water Action Levels (DWALs): perfluorohexane sulfonic acid [PFHxS], perfluorooctanoic acid [PFOA], perfluorooctane sulfonic acid [PFOS] and perfluorononanoic acid [PFNA]) referred to as CT4.

Individual CT4 concentrations in WPCF influent and effluent average from 4.1 to 10.4 nanograms per liter (ng/L) or parts per trillion (ppt). Effluent concentrations of CT4 average below the DWAL concentration with the exception of PFOS. Slight increases in surface water PFAS concentrations were seen downstream of the WPCF outfalls.

WPCF sludges generated also contain PFAS. The mixed input sludges processed at the incinerators sampled have generally similar PFAS present, however at slightly lower concentrations. The scrubber waters used in the incineration process also contain similar PFAS to WPCF effluent wastewater, but at lower concentrations.

Fish tissue PFAS concentrations were below 50 micrograms per kilogram (ug/Kg) or parts per billion (ppb) at 9 of the 10 locations sampled. Fish tissue at the Vernon WPCF on the Hockanum River contained PFAS at greater than 200 ppb in each fish species sampled. This necessitated the CTDEEP and CT Department of Public Health (CTDPH) issuing a consumption advisory for specific sections of the Hockanum River. Evaluation of the PFAS concentrations in the Vernon WPCF effluent indicates the source of the elevated PFAS in surface water and fish tissue is located upstream of the Vernon WPCF outfall and is not related to the WPCF discharge.

Further study of the temporal changes in PFAS concentrations in wastewater influent, effluent, sludges, surface waters, and fish will be needed to evaluate trends, seasonality and to determine if there is an annual increase or decrease. Analysis of various “sewer-sheds” is recommended to identify potential sources within the “sewer sheds” and to ultimately evaluate industrial pre-treatment before discharging to the WPCF.

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### 3.0 RESULTS AND DISCUSSION

The complete laboratory packages for all samples are included in **Appendix C**. The laboratory packages are organized by date of submittal of the samples to the laboratory. Several summary tables have been generated for data evaluation and presentation. **Tables 1 - 12** present data by media type for all WPCF sampled in alphabetic order. We have also compiled all data collected at each WPCF individually, in alphabetical order in **Appendix D**. The following sections discuss the laboratory results by specific media type.

Overall, nearly all of the PFAS detectable by each analytical method were reported as being present at least once in the liquid and sludge samples tested. Fish tissue results report a uniquely different suite of individual PFAS, many of which are not seen in the liquid/sludge samples. The tables presented in this report include all of the PFAS quantified by each analytical method.

For graphing, evaluation and discussion purposes, two suites of individual PFAS have been developed for non-fish tissue media:

- 1) **CT4:** PFAS compounds with a DWAL (PFHxS, PFOS, PFOA and PFNA). Although the DWAL is not directly applicable to the media types sampled, the CT4 were selected for use in discussion and evaluation as they can provide a qualitative comparison to the DWAL.
- 2) **PFAS Reported in >50% of Influent, Effluent, Sludge and Surface Water Samples:** The data sets for all non-fish media were reviewed to identify each PFAS compound reported in >50% of samples in the target WPCF media (influent, effluent, sludge) and surface water. This suite of eight (8) individual PFAS represent the most frequently detected PFAS in liquid and sludge samples:

**"8 PFAS Reported in >50% of Samples"**

Compound Name	Compound Acronym
Perfluorobutanesulfonic acid	PFBS
Perfluorobutanoic acid	PFBA
Perfluoropentanoic acid	PFPeA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluoroheptanoic acid	PFHpA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA

#### 3.1 Influent and Effluent

A summary of PFAS analyses results for influent and effluent at each WPCF for both sampling events is presented on **Table 1**. Frequency of individual PFAS reported as present in these media along with concentration minimum, maximum, average, and standard deviation are summarized in **Table 2**.

Review of the influent data indicates that:

- 1) PFAS were present in quantifiable concentrations at all WPCFs during the summer and winter sampling events, except influent and effluent samples collected from the Danbury WPCF during the Summer 2021 sampling event.
- 2) A box and whisker plot of the PFAS Reported in >50% of Samples for influent results are presented on **Figure 3**. PFPeA is present in influent samples at an average of 111 ng/L. This is approximately an order of magnitude greater than the remaining 7 of the 8 PFAS Reported in >50% of samples, which have averages ranging from 1.5 to 9 ng/L.
- 3) A box and whisker plot of the PFAS Reported in >50% of Samples for effluent results are presented on **Figure 3**. Average concentrations of PFAS Reported in >50% of Samples in effluent range from 2.9 to 24 ng/L. With the exception of PFPeA, each compound shows an increase in average concentrations in the effluent samples as compared with influent results. The PFPeA and PFHxA concentration ranges are generally the highest and nearly equivalent to each other. Weston & Sampson performed a detailed evaluation of our field collection methods and the laboratory QA/QC data regarding the disparity in PFPeA concentrations in the influent and effluent samples. We also discussed the large difference in PFPeA concentrations directly with the laboratory. The QA/QC review and laboratory discussions did not reveal any systemic issues that would result in high or low bias of the results. Further discussion of PFPeA concentrations is included in Section 5.1. At this time, the results are believed to be accurate.
- 4) The totals of the PFAS Reported in >50% of Samples in individual WPCF influent samples collected during the summer and winter sampling events are presented on **Figure 5**. Effluent totals for the PFAS Reported in >50% of Samples are presented on **Figure 6**. As depicted on the figures, PFPeA was the predominant compound in influent samples at nearly all of the and PFPeA and PFHxA are each prevalent in the effluent samples.
- 5) At least one of the CT4 compounds were detected in either the influent and/or effluent at all sampled WPCFs except for Danbury and Newtown during the summer sampling event. PFOA and PFOS were the most commonly reported PFAS of the CT4.
- 6) Average concentrations of the CT4 in influent and effluent samples along with the DWAL for each of the compounds are presented on **Figure 7**. The concentrations of the individual CT4 compounds each show an increase from influent to effluent, with the greatest increases in PFOA and PFOS. Average effluent PFOS concentrations are slightly above the 10 ppt DWAL. The mean concentrations of the other CT4 compounds are below their respective DWAL.
- 7) The increase in effluent concentrations is likely due to breakdown of precursor compounds into the perfluorinated end products quantified by the analytical method. Few precursors are identified in the influent samples (e.g. 4:2 FTS; 6:2 FTS; 8:2 FTS; FOSSAs; etc.). However, hundreds of potential precursors exist that are not quantified by current laboratory methods and may contribute to the noted increases.

### 3.2 Sludge

A summary of PFAS analytical results for sludge samples collected at each WPCF during both sampling events is presented on **Table 3**. The sludge samples were analyzed as a solid matrix if visible solids were observed in the sample and as a liquid matrix if the sludge was clear. Both analytical results are presented in the summary table. Frequency of individual PFAS reported as present in these media

along with concentration minimum, maximum, average, and standard deviation are summarized in **Table 4**.

Review of the sludge data indicates:

- 1) PFAS are present in quantifiable concentrations in all WPCF sludges, except for Hartford MDC non-activated sludge. The percent detections of PFAS Reported in >50% of Samples analyzed as liquids and solids are presented on **Figure 8**. All PFAS Reported in >50% of Samples were observed in liquid samples with PFPeA and PFHxA present in 100% of the samples. Samples analyzed as solids reported fewer compounds, at lower percentages than the liquids.
- 2) The PFAS Reported in >50% of Samples in sludge analyzed as liquid are presented for each facility on **Figure 9**. As depicted, PFPeA and PFHxA are the dominant compounds in the majority of the samples.
- 3) The PFAS Reported in >50% of Samples in sludge analyzed as solids are presented for each facility on **Figure 10**. PFOS is the dominant compound in the majority of the solid samples.
- 4) Average concentrations of the CT4 in liquid and solid sludges are presented co-graphically on **Figure 11**. PFOA is the dominant compound in liquids and PFOS is the dominant compound in solids. The remaining compounds average less than 2 mg/Kg or ng/L, respectively.
- 5) A number of longer chain PFAS and several precursors detected in the solid sludge, were less frequently detected in the influent and effluent samples. These constituents include PFDA, PFDoA, 6:2 FTS, N-EtFOSAA and N-MeFOSAA.

### 3.3 Incinerator Sludge and Incinerator Scrubber Water

Weston & Sampson collected incinerator sludge and incinerator scrubber water samples from the Hartford MDC, Naugatuck, New Haven and Waterbury WPCFs during each sampling round. The New Haven incinerator was not running during the original winter sampling date of March 2, 2022. On March 7, 2022, Weston & Sampson returned to collect the incinerator samples. A summary of PFAS analytical results for incinerator sludges as liquid or solid are presented on **Table 5**. Incinerator scrubber water results are presented on **Table 7**. Frequency of individual PFAS reported as present in these media along with concentration minimum, maximum, average, and standard deviation are summarized in **Tables 6** and **8**, respectively. It should be noted the incinerator sludge sample collected from the New Haven WPCF during the Winter sampling event, was the only sample analyzed as a liquid, resulting in an “exaggerated” 100 percent presence of quantified compounds.

Review of the data indicates:

- 1) **Figure 12** presents the percentage of detections of the suite of PFAS Reported in >50% of Samples in incinerator sludge as solids. The PFAS observed in the incinerator sludge solids are the same and are observed in similar frequency as those seen in the sludges at individual WPCFs (PFBA, PFPeA, PFHxA, PFHpA, PFOS and PFOA). In addition, a number of long-chain PFAS are also noted at greater frequency than in individual WPCF influent, effluent and sludge samples.

- 2) The PFAS Reported in >50% of Samples in sludge analyzed as solids at each of the 4 incinerator locations are presented on **Figure 13**. As observed at the individual WPCFs, PFOS is the dominant compound in the solid samples.
- 3) The PFAS Reported in >50% of Samples in sludge analyzed as liquid at the New Haven facility in Winter 2022 are presented on **Figure 14**. As was observed at the individual WPCFs, PFOA is the dominant compound in the liquid sample.
- 4) Average concentrations of the CT4 for incinerator sludge as liquid and solid are shown co-graphically on **Figure 15**. The overall concentrations of CT4 PFAS in solid samples are significantly lower than those reported at individual WPCFs. With only one incinerator sludge analyzed as a liquid, a viable comparison to individual WPCF data is not possible.
- 5) The concentrations of the CT4 in scrubber water are below their respective DWAL, with the exception of PFOS at the Naugatuck WPCF, which reported a high of 24 ppt.
- 6) The frequency of detections of the PFAS Reported in >50% of Samples in scrubber water are presented on **Figure 16**. Generally, the frequency and concentration of PFAS in the scrubber water samples are similar to the average influent PFAS concentrations at the WPCFs.
- 7) A summary of the average scrubber water concentrations of the PFAS Reported in >50% of Samples at each WPCF is presented on **Figure 17**. Similar to the sludge data at the individual WPCF, PFPeA and PFHxA are the dominant compounds of the PFAS Reported in >50% of Samples.
- 8) Average concentrations of the CT4 in scrubber water are presented on **Figure 18**. PFOS concentrations are near the DWAL of 10 ppt. The remaining concentrations of the CT4 are well below the DWALs.

### 3.4 Surface Water

Surface-water samples were collected during the summer sampling event completed in September 2021. **Table 9** presents a summary of all surface-water sample results. Maps of the WPCF outfall, surface-water sample locations and fish tissue sample locations are depicted on Figures 2a through 2j. Frequency of individual PFAS reported as present in these media along with concentration minimum, maximum, average, and standard deviation are summarized in **Table 10** for upstream and downstream sampling locations.

Review of the data indicates:

- 1) Upstream and downstream samples from the Mattabassett District and Winsted WPCFs did not report any PFAS above the method detection limit. No CT4 were quantified upstream or downstream of the Somers WPCF outfall.
- 2) The PFAS Reported in >50% of Samples were commonly detected in upstream and downstream samples at the other WPCFs. PFDA and 6:2 FTS were observed once each at concentrations close to the detection limit. All other detections were of the PFAS Reported in >50% of Samples. A graph of PFAS detection frequency at all surface water sampling

locations is presented on **Figure 19**. Downstream PFAS detections are generally the same or slightly higher than upstream locations; except for PFBS, PFHpS, and PFHpA.

- 3) The concentrations of the PFAS Reported in >50% of Samples at each surface water sample location are presented on **Figure 20**.
- 4) A summary of CT4 compounds detected in the surface-water samples is presented on **Figure 21**. PFOS and PFOA are the dominant compounds detected in the majority of the surface-water samples.

### 3.5 Fish Tissue

The fish tissue samples were collected during the Summer 2021 sampling event. Electrofishing occurred from the outfall downstream 1.5 kilometers, targeting areas of preferred habitat which included pools, riffles and varying structure. The locations of the areas fished are shown on Figure 2 2a through 2j. Details regarding the species of fish and number in each composite sample are included in **Appendix B**.

Laboratory analytical data is summarized in **Table 11**. The analytical method for fish tissue reports a different set of PFAS compounds than the liquid and sludge methods used to quantify the PFAS in the above samples. A total of 18 individual PFAS were reported in at least one fish tissue sample, most of which were not commonly seen in influent, effluent or surface water samples. Six (6) of these compounds were reported in greater than 50% of the samples (PFOS, PFDA, PFDoA, PFTrDA, PFTA, PFUnA). PFOS is the only compound detected at this frequency in both the liquid, sludge and fish tissue samples. The frequency of individual PFAS reported as present in the fish tissue samples along with concentration minimum, maximum, average, and standard deviation are summarized in **Table 12**.

The quantified PFAS in fish tissue are predominantly large (> 8 carbon chain) perfluorinated alkyl acids and sulfonamide precursors. Review of the fish tissue data indicates the following:

- 1) A graphic representation of the frequency of detection for all PFAS identified in fish tissue is presented on **Figure 22**. PFOS was identified in every sample analyzed. PFDA, PFDoA, PFTrDA, PFTA and PFUnA are each quantified in at least 90% of the samples.
- 2) Generally, individual PFAS concentrations in fish tissue were below 30 ppb at all WPCF, except for Vernon (Hockanum River). Individual PFAS concentrations were considerably higher in fish from this area. A summary of reported PFAS concentrations in each fish composite sample at all WPCFs, except Vernon, is presented on **Figure 23**. PFOS concentrations are generally an order of magnitude higher than the remaining reported PFAS.
- 3) The Vernon related fish data is summarized in the graph presented on **Figure 24**. Overall PFAS concentrations at Vernon are an order of magnitude higher than those at other WPCFs. Several of the PFAS are present at concentrations exceeding 100 ug/Kg. PFOS is only observed at concentrations similar to, and up to 2 times, PFDoA and PFTA in each of the samples. Total PFAS concentrations at Vernon range from 200 to nearly 2,000 ug/Kg.

- 4) The relative total PFAS concentrations in bottom dwelling species are consistently less than those in upper trophic species.

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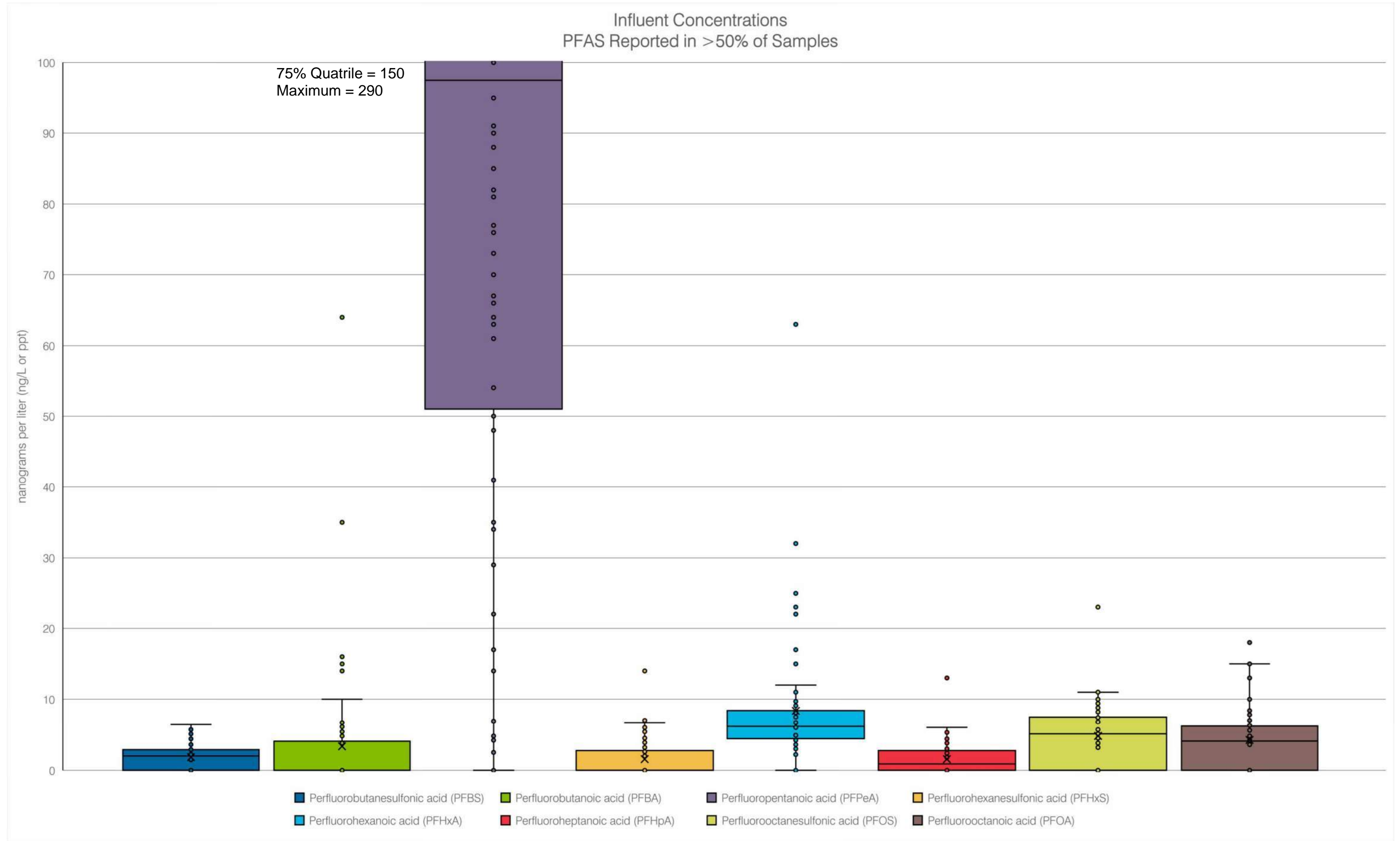


**TABLE 2**  
**INFLUENT AND EFFLUENT STATISTICAL SUMMARY**  
**CT DEEP WPCF PFAS STUDY**  
**VARIOUS WPCF LOCATIONS, CONNECTICUT**

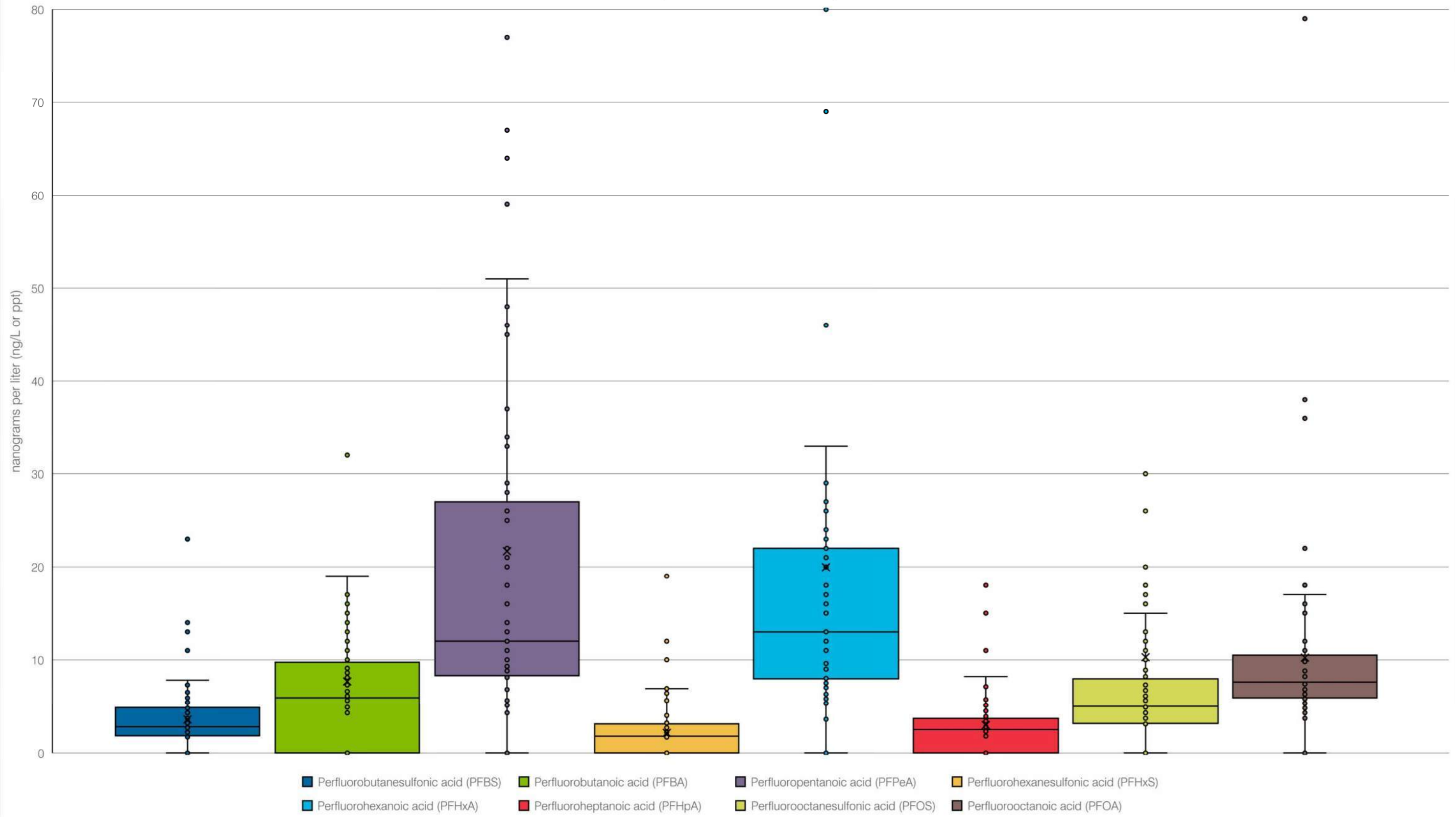
Summary Table of all WPCFs Influent							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11Cl-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9Cl-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanedisulfonamide (FBSA)	4	6%	0	2.3	0.10	0	0.43
Perfluoro-1-hexanesulfonamide (FHxSA)	2	3%	0	7.1	0.14	0	0.89
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	42	62%	0	6.4	1.87	0	1.72
Perfluorobutanoic acid (PFBA)	22	32%	0	64.0	3.56	0	9.24
Perfluoropentanesulfonic Acid (PFPeS)	1	1%	0	4.0	0.06	0	0.48
Perfluoropentanoic acid (PFPeA)	65	96%	0	400.0	111.40	93	88.26
Perfluorohexanesulfonic acid (PFHxS)	26	38%	0	14.0	1.57	0	2.50
Perfluorohexanoic acid (PFHxA)	66	97%	0	110.0	9.07	6.15	13.59
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	35	51%	0	13.0	1.61	1.8	2.10
Perfluorooctanesulfonamide (FOSA)	0	0%					
Perfluorooctanesulfonic acid (PFOS)	47	69%	0	23.0	4.82	5.1	4.14
Perfluorooctanoic acid (PFOA)	47	69%	0	18.0	4.31	4.15	3.96
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	7	10%	0	17.0	0.56	0	2.28
Perfluorodecanesulfonic acid (PFDS)	4	6%	0	13.0	0.46	0	2.02
Perfluorodecanoic acid (PFDA)	1	1%	0	17.0	0.25	0	2.05
Perfluorododecanoic acid (PFDoA)	1	1%	0	2.7	0.04	0	0.33
Perfluorotridecanoic acid (PFTDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	0	0%					
4:2 Fluorotelomersulfonic acid (4:2FTS A)	1	1%	0	3.0	0.04	0	0.36
6:2 Fluorotelomersulfonic acid (6:2FTS A)	18	26%	0	500.0	9.67	0	60.25
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2	3%	0	150.0	2.28	0	18.06
N-EtFOSAA	1	1%	0	3.7	0.05	0	0.45
N-MeFOSAA	0	0%					

Summary Table of all WPCFs Effluent							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11Cl-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9Cl-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanedisulfonamide (FBSA)	20	29%	0.0	6.6	0.7	0.0	1.23
Perfluoro-1-hexanesulfonamide (FHxSA)	2	3%	0.0	5.2	0.1	0.0	0.66
Perfluoro-4-oxapentanoic acid (PFMPA)	1	1%	0.0	2.6	0.0	0.0	0.31
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	52	75%	0.0	23.0	3.6	2.8	3.71
Perfluorobutanoic acid (PFBA)	48	70%	0.0	88.0	7.5	5.9	11.44
Perfluoropentanesulfonic acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	67	97%	0.0	220.0	24.2	12.0	33.94
Perfluorohexanesulfonic acid (PFHxS)	36	52%	0.0	19.0	2.1	1.8	3.18
Perfluorohexanoic acid (PFHxA)	67	97%	0.0	100.0	18.5	13.0	18.98
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	49	71%	0.0	18.0	2.9	2.5	3.23
Perfluorooctanesulfonamide (FOSA)	0	0%					
Perfluorooctanesulfonic acid (PFOS)	53	77%	0.0	280.0	10.3	5.0	33.30
Perfluorooctanoic acid (PFOA)	66	96%	0.0	79.0	10.1	7.6	10.48
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	16	23%	0.0	51.0	1.8	0.0	6.80
Perfluorodecanesulfonic acid (PFDS)	2	3%	0.0	6.3	0.2	0.0	0.95
Perfluorodecanoic acid (PFDA)	8	12%	0.0	20.0	0.7	0.0	2.62
Perfluorododecanoic acid (PFDoA)	0	0%					
Perfluorotridecanoic acid (PFTDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	1	1%	0.0	5.4	0.1	0.0	0.65
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	28	41%	0.0	180.0	6.2	0.0	26.91
8:2 Fluorotelomersulfonic acid (8:2FTS A)	2	3%	0.0	10.0	0.2	0.0	1.25
N-EtFOSAA	1	1%	0.0	9.5	0.1	0.0	1.14
N-MeFOSAA	1	1%	0.0	13.0	0.2	0.0	1.55





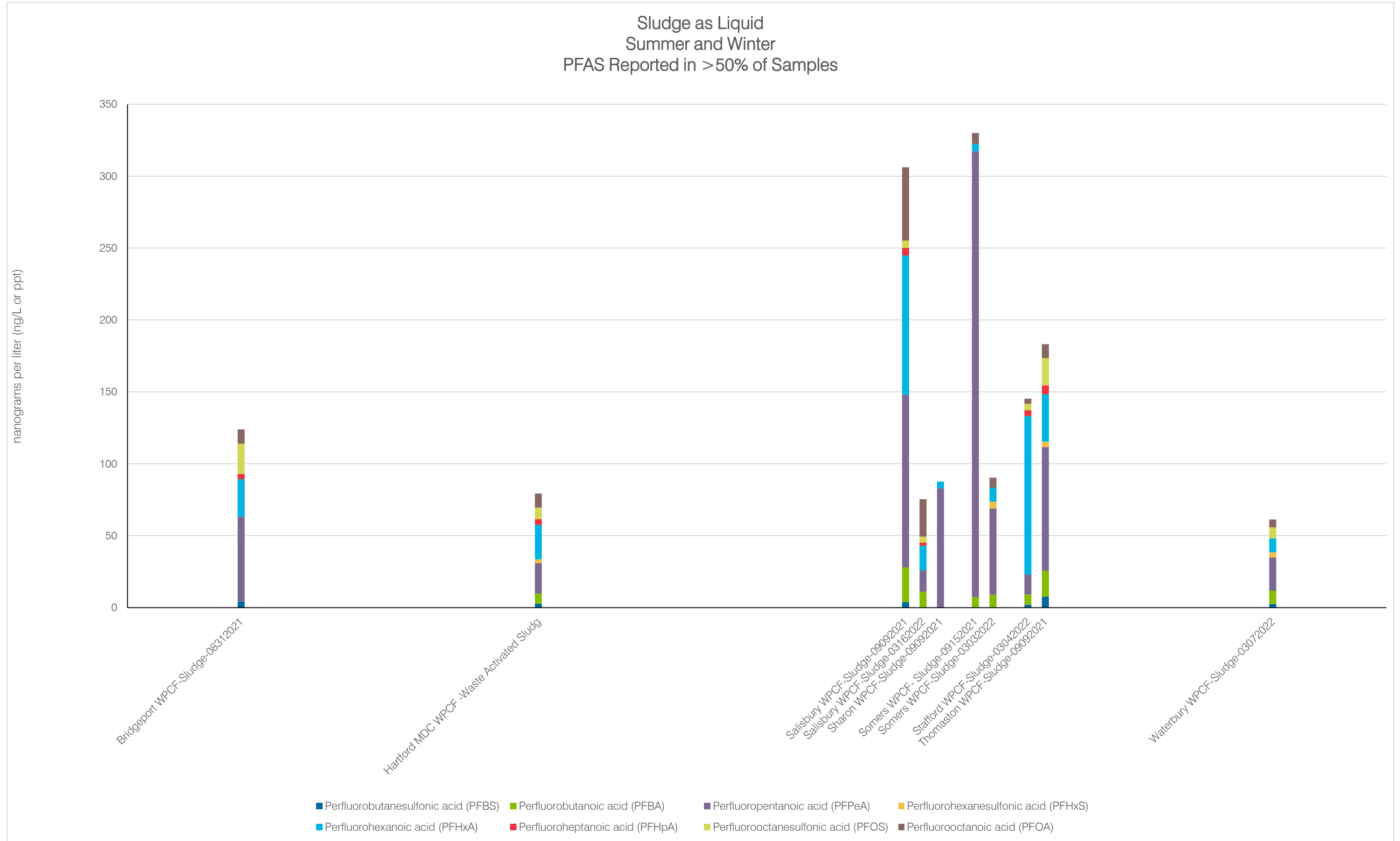
Effluent Concentration  
PFAS Reported in 50% of Samples

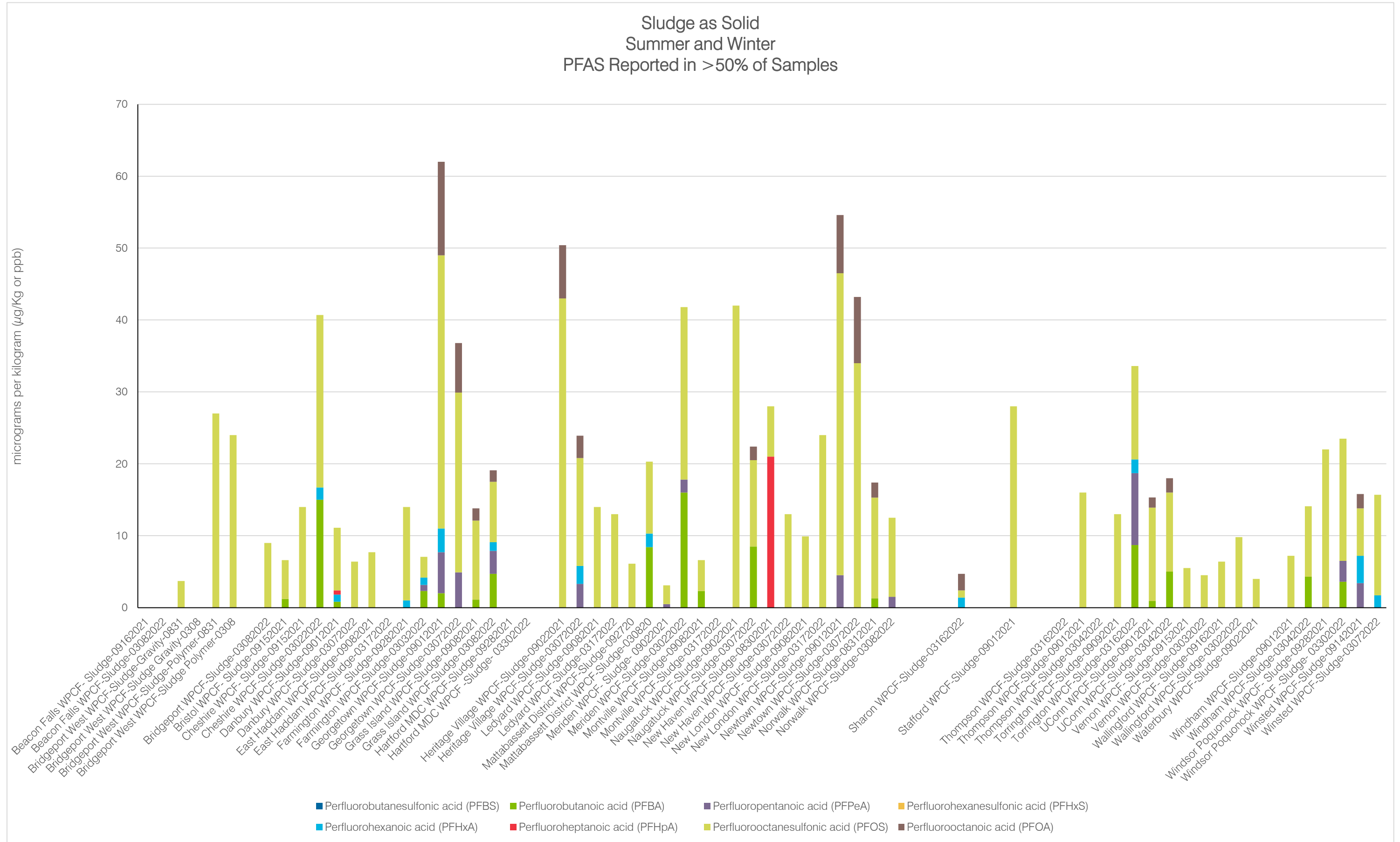


**TABLE 4  
SLUDGE STATISTICAL SUMMARY  
CT DEEP WPCF PFAS STUDY  
VARIOUS WPCF LOCATIONS, CONNECTICUT**

Summary Table of all WPCFs - Sludge Liquid							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11CI-PF3OUdS (F53B Major)	0	0%					
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	0	0%					
9CI-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	1	10%	0	9	0.9	0.0	2.70
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	1	10%	0	0.97	0.1	0.0	0.29
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanefluoramide (FBSA)	3	30%	0	7.8	1.1	0.0	2.32
Perfluoro-1-hexanesulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%		0	0.0	0.0	0.00
Perfluorobutanesulfonic acid (PFBS)	6	60%	0	7.6	2.3	2.2	2.36
Perfluorobutanoic acid (PFBA)	8	80%	0	24	9.3	8.1	6.94
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	10	100%	14	310	79.1	59.5	84.08
Perfluorohexanesulfonic acid (PFHxS)	4	40%	0	4.7	1.5	0.0	1.88
Perfluorohexanoic acid (PFHxA)	10	100%	4.6	110	33.6	20.5	36.16
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	6	60%	0	6.1	2.5	3.0	2.25
Perfluorooctanesulfonamide (FOSA)	0	0%					
Perfluorooctanesulfonic acid (PFOS)	7	70%	0	21	7.0	4.9	7.12
Perfluorooctanoic acid (PFOA)	9	90%	0	51	13.0	8.6	14.23
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	2	20%	0	3.1	0.6	0.0	1.20
Perfluorodecanesulfonic acid (PFDS)	1	10%	0	9.6	1.0	0.0	2.88
Perfluorodecanoic acid (PFDA)	3	30%	0	8.6	1.9	0.0	3.09
Perfluorododecanoic acid (PFDoA)	1	10%	0	1.8	0.2	0.0	0.54
Perfluorotridecanoic acid (PFTrDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	1	10%	0	1.7	0.2	0.0	0.51
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	5	50%	0	640	67.1	2.1	191.01
8:2 Fluorotelomersulfonic acid (8:2FTS A)	1	10%	0	2.5	0.3	0.0	0.75
N-EtFOSAA	1	10%	0	7	0.7	0.0	2.10
N-MeFOSAA	1	10%	0	9.7	1.0	0.0	2.91

Summary Table of all WPCFs - Sludge Solid							
PFAS (ug/kg)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11CI-PF3OUdS (F53B Major)	0	0%					
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	0	0%					
9CI-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanefluoramide (FBSA)	0	0%					
Perfluoro-1-hexanesulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	2	3%	0	0.95	0.0	0.0	0.14
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	0	0%					
Perfluorobutanoic acid (PFBA)	17	27%	0	16	1.4	0.0	3.31
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	12	19%	0	10	0.7	0.0	1.77
Perfluorohexanesulfonic acid (PFHxS)	0	0%					
Perfluorohexanoic acid (PFHxA)	12	19%	0	3.8	0.4	0.0	0.83
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	2	3%	0	21	0.3	0.0	2.65
Perfluorooctanesulfonamide (FOSA)	8	13%	0	2.5	0.2	0.0	0.53
Perfluorooctanesulfonic acid (PFOS)	53	85%	0	43	12.4	10.0	10.98
Perfluorooctanoic acid (PFOA)	14	23%	0	13	1.0	0.0	2.53
Perfluorononanesulfonic acid (PFNS)	1	2%	0	1.7	0.0	0.0	0.21
Perfluorononanoic acid (PFNA)	10	16%	0	8.4	0.5	0.0	1.59
Perfluorodecanesulfonic acid (PFDS)	9	15%	0	20	0.7	0.0	2.79
Perfluorodecanoic acid (PFDA)	40	65%	0	16	3.1	2.0	3.71
Perfluorododecanoic acid (PFDoA)	18	29%	0	11	0.8	0.0	1.74
Perfluorotridecanoic acid (PFTrDA)	2	3%	0	5.6	0.2	0.0	0.84
Perfluorotetradecanoic acid (PFTA)	1	2%	0	0.89	0.0	0.0	0.11
Perfluoroundecanoic acid (PFUnA)	11	18%	0	14	0.7	0.0	2.52
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	17	27%	0	37	2.1	0.0	6.62
8:2 Fluorotelomersulfonic acid (8:2FTS A)	3	5%	0	6.3	0.2	0.0	0.97
N-EtFOSAA	27	44%	0	10	1.8	0.0	2.62
N-MeFOSAA	31	50%	0	12	2.2	0.6	2.95



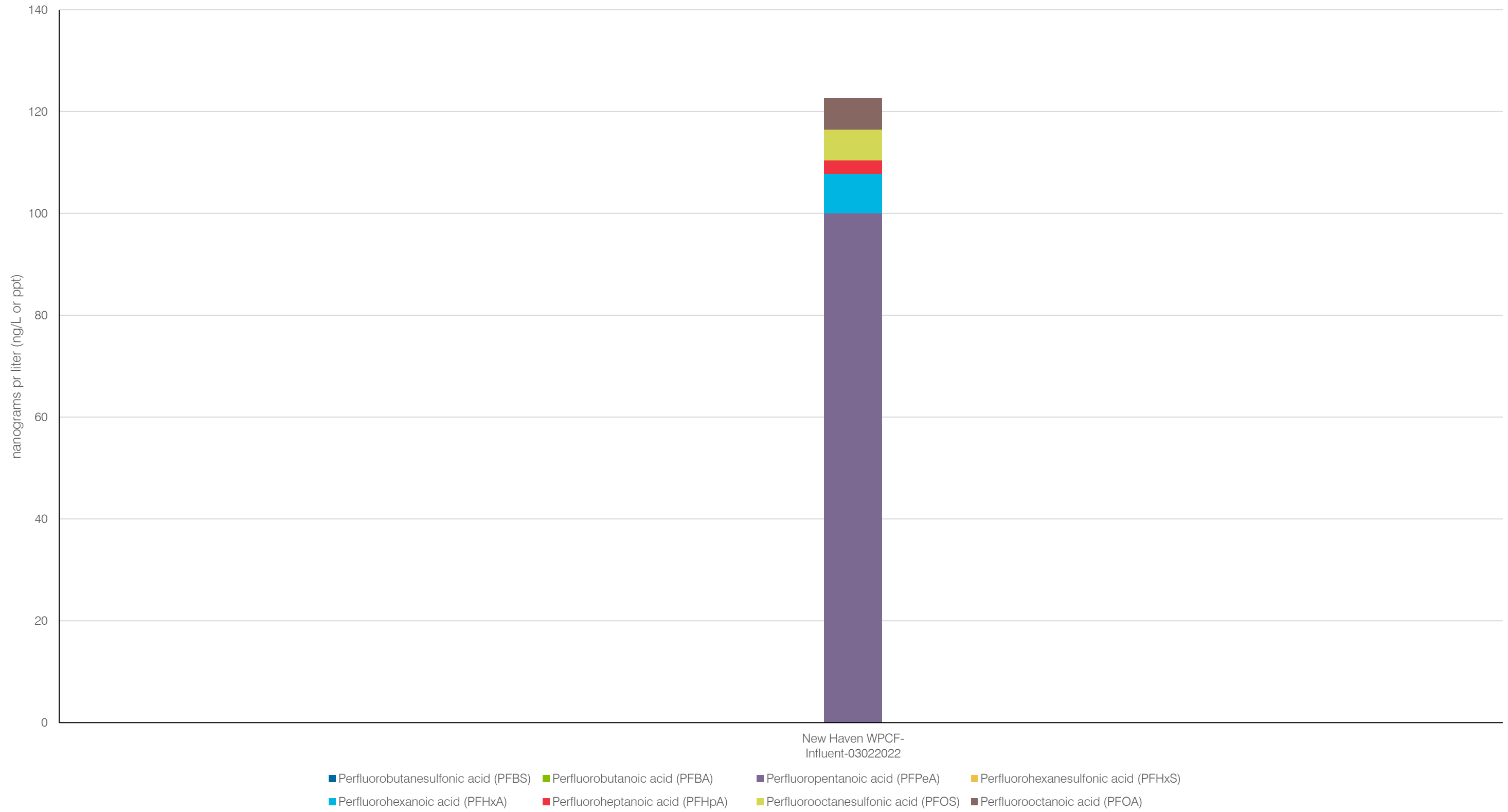


**TABLE 6**  
**INCINERATOR SLUDGE STATISTICAL SUMMARY**  
**CT DEEP WPCF PFAS STUDY**  
**VARIOUS WPCF LOCATIONS, CONNECTICUT**

Summary Table of all WPCFs - Incinerator Sludge Liquid							
SOP-454 PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11Cl-PF3OUdS (F53B Major)	0	0%	0	0	0		
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%	0	0	0		
9Cl-PF3ONS (F53B Minor)	0	0%	0	0	0		
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%	0	0	0		
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	0	0%	0	0	0		
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%	0	0	0		
Perfluoro-1-butanefulfonamide (FBSA)	0	0%	0	0	0		
Perfluoro-1-hexanesulfonamide (FHxSA)	0	0%	0	0	0		
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%	0	0	0		
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%	0	0	0		
Perfluorobutanesulfonic acid (PFBS)	1	100%	2.6	2.6	2.6	2.6	0.00
Perfluorobutanoic acid (PFBA)	0	0%	0	0	0		
Perfluoropentanesulfonic Acid (PFPeS)	0	0%	0	0	0		
Perfluoropentanoic acid (PFPeA)	1	100%	100	100	100	100	0.00
Perfluorohexanesulfonic acid (PFHxS)	0	0%	0	0	0		
Perfluorohexanoic acid (PFHxA)	1	100%	7.8	7.8	7.8	7.8	0.00
Perfluoroheptanesulfonic acid (PFHpS)	0	0%	0	0	0		
Perfluoroheptanoic acid (PFHpA)	1	100%	2.6	2.6	2.6	2.6	0.00
Perfluorooctanesulfonamide (FOSA)	0	0%	0	0	0		
Perfluorooctanesulfonic acid (PFOS)	1	100%	6.1	6.1	6.1	6.1	0.00
Perfluorooctanoic acid (PFOA)	1	100%	6.1	6.1	6.1	6.1	0.00
Perfluorononanesulfonic acid (PFNS)	0	0%	0	0	0		
Perfluorononanoic acid (PFNA)	0	0%	0	0	0		
Perfluorodecanesulfonic acid (PFDS)	0	0%	0	0	0		
Perfluorodecanoic acid (PFDA)	0	0%	0	0	0		
Perfluorododecanoic acid (PFDoA)	0	0%	0	0	0		
Perfluorotridecanoic acid (PFTrDA)	0	0%	0	0	0		
Perfluorotetradecanoic acid (PFTA)	0	0%	0	0	0		
Perfluoroundecanoic acid (PFUnA)	0	0%	0	0	0		
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%	0	0	0		
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1	100%	6.3	6.3	6.3	6.3	0.00
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%	0	0	0		
N-EtFOSAA	0	0%	0	0	0		
N-MeFOSAA	0	0%	0	0	0		

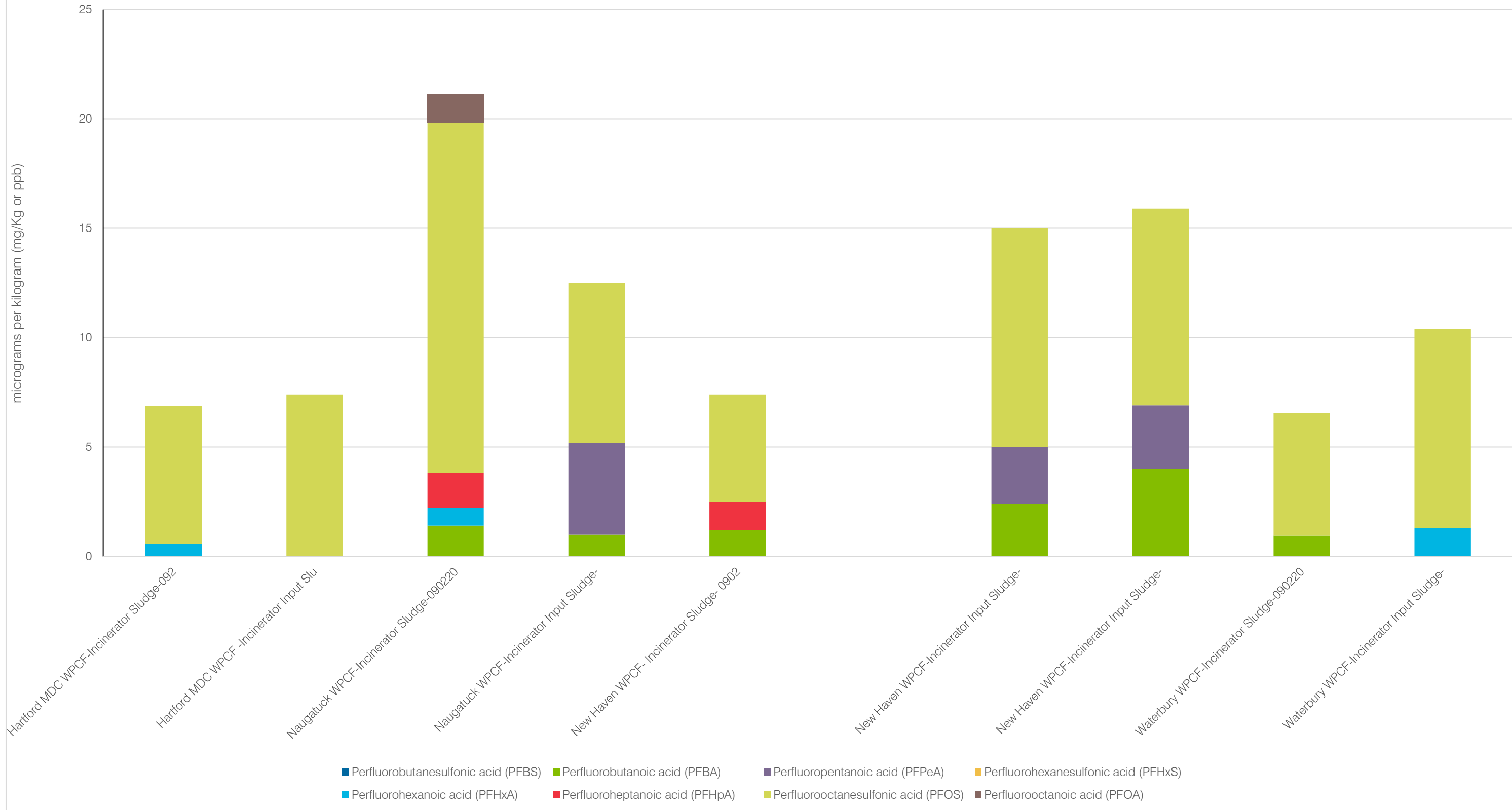
Summary Table of all WPCFs - Incinerator Sludge Solid							
SOP-454 PFAS (ug/kg)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11Cl-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9Cl-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanefulfonamide (FBSA)	0	0%					
Perfluoro-1-hexanesulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	0	0%					
Perfluorobutanoic acid (PFBA)	6	67%	0.94	4	1.82	1.3	1.09
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	3	33%	2.6	4.2	3.23	2.9	0.69
Perfluorohexanesulfonic acid (PFHxS)	0	0%					
Perfluorohexanoic acid (PFHxA)	3	33%	0.57	1.3	0.90	0.8	0.30
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	2	22%	1.3	1.6	1.45	1.5	0.15
Perfluorooctanesulfonamide (FOSA)	1	11%	0.64	0.64	0.64	0.6	0.00
Perfluorooctanesulfonic acid (PFOS)	9	100%	4.9	16	8.40	7.4	3.12
Perfluorooctanoic acid (PFOA)	1	11%	1.3	1.3	1.30	1.3	0.00
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	3	33%	0.84	1.7	1.17	1.0	0.38
Perfluorodecanesulfonic acid (PFDS)	2	22%	1.1	7	4.05	4.1	2.95
Perfluorodecanoic acid (PFDA)	8	89%	1.1	2.7	1.71	1.7	0.58
Perfluorododecanoic acid (PFDoA)	2	22%	0.65	0.68	0.67	0.7	0.02
Perfluorotridecanoic acid (PFTrDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	4	44%	0.66	3.5	1.93	1.8	1.17
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2	22%	1.1	3.1	2.10	2.1	1.00
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%					
N-EtFOSAA	6	67%	1.1	2.2	1.88	2.0	0.38
N-MeFOSAA	7	78%	1.2	3.9	2.16	1.9	0.81

Incinerator Sludge as Liquid  
Summer and Winter  
PFAS Reported in >50% of Samples





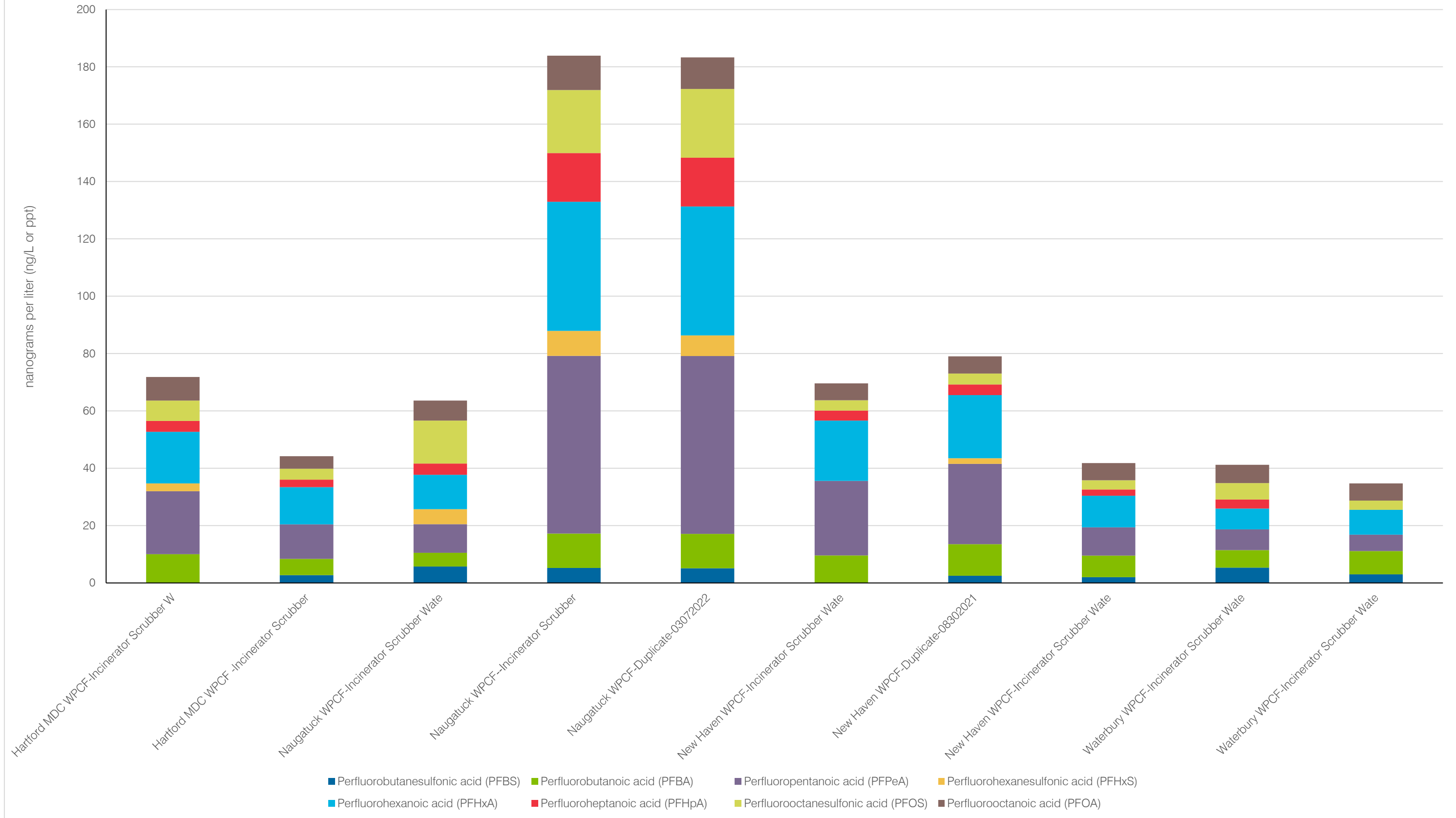
Incinerator Sludge as Solid  
 Summer and Winter  
 PFAS Reported in >50% of Samples



**TABLE 8  
 INCINERATOR SCRUBBER WATER STATISTICAL SUMMARY  
 CT DEEP WPCF PFAS STUDY  
 VARIOUS WPCF LOCATIONS, CONNECTICUT**

Summary Table of all WPCFs - Incinerator Scrubber Water							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11Cl-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9Cl-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanefulfonamide (FBSA)	4	40%	0	3.3	1.1	0	1.42
Perfluoro-1-hexanesulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	8	80%	0	5.7	3.2	2.85	2.02
Perfluorobutanoic acid (PFBA)	10	100%	4.8	12	8.7	8.85	2.50
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	10	100%	5.7	62	24.5	17	20.15
Perfluorohexanesulfonic acid (PFHxS)	5	50%	0	8.7	3.2	2.35	3.21
Perfluorohexanoic acid (PFHxA)	10	100%	7.2	45	20.3	15.5	13.20
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	9	90%	2.2	17	6.3	3.7	5.73
Perfluorooctanesulfonamide (FOSA)	1	10%	0	2.3	0.5	0	0.92
Perfluorooctanesulfonic acid (PFOS)	10	100%	3.2	24	9.1	4.75	7.71
Perfluorooctanoic acid (PFOA)	10	100%	4.4	12	7.3	6.2	2.30
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	0	0%					
Perfluorodecanesulfonic acid (PFDS)	0	0%					
Perfluorodecanoic acid (PFDA)	0	0%					
Perfluorododecanoic acid (PFDoA)	0	0%					
Perfluorotridecanoic acid (PFTrDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	0	0%					
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	5	50%	0	53	11.0	1.25	19.82
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%					
N-EtFOSAA	0	0%					
N-MeFOSAA	0	0%					

Scrubber Water Summary  
PFAS Reported in >50% of Samples

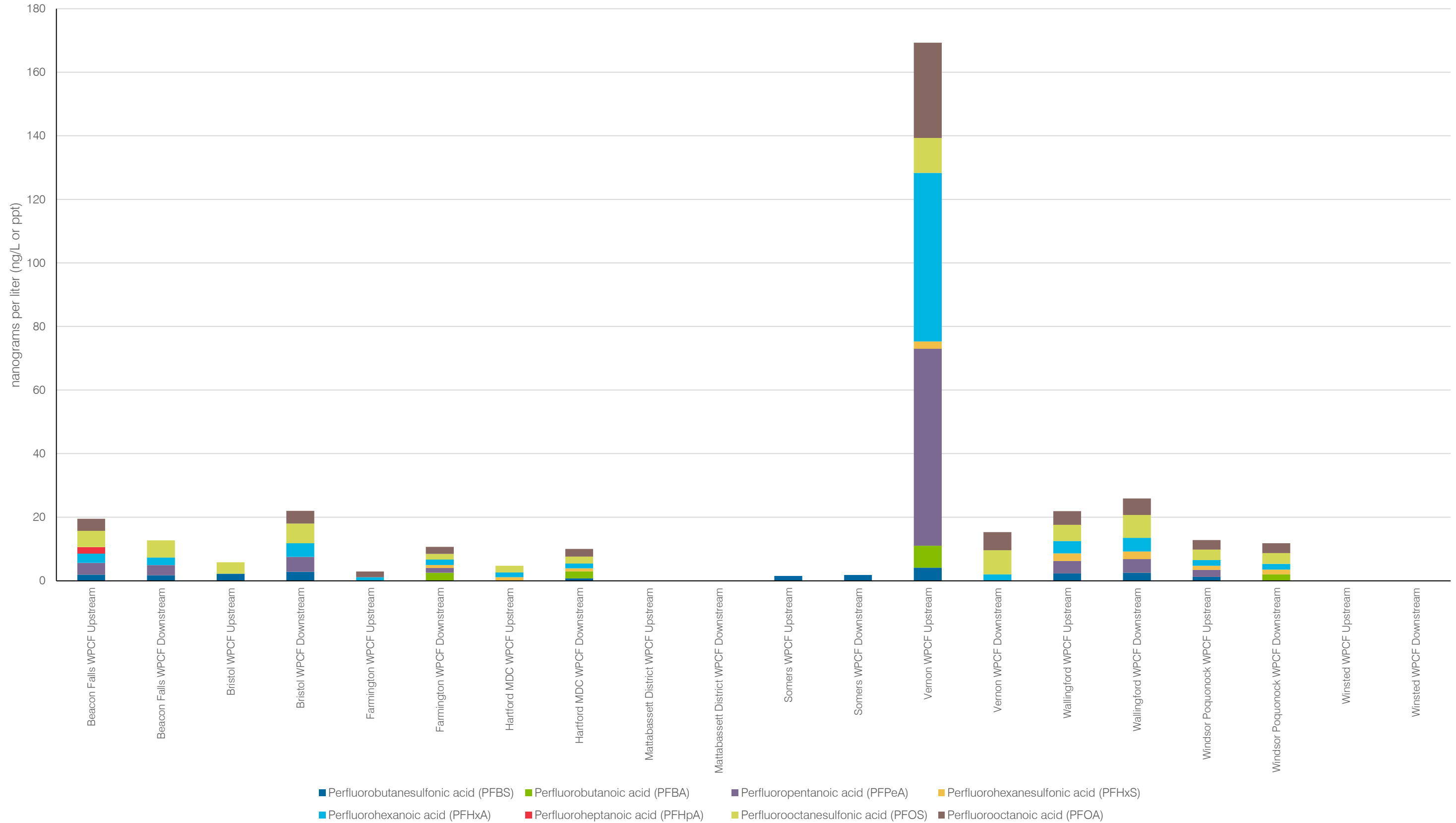


**TABLE 10**  
**SURFACE WATER STATISTICAL SUMMARY**  
**CT DEEP WPCF PFAS STUDY**  
**VARIOUS WPCF LOCATIONS, CONNECTICUT**

Summary Table of all WPCFs - Surface Water Downstream							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11CI-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9CI-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanedisulfonamide (FBSA)	0	0%					
Perfluoro-1-hexanedisulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	5	63%	0.76	2.8	1.9	1.8	0.71
Perfluorobutanoic acid (PFBA)	3	38%	2	2.5	2.2	2.2	0.21
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	4	50%	1.5	4.7	3.4	3.8	1.24
Perfluorohexanesulfonic acid (PFHxS)	4	50%	0.93	2.4	1.4	1.2	0.60
Perfluorohexanoic acid (PFHxA)	7	88%	1.5	4.3	2.6	2.0	1.12
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	3	38%	1	2.5	1.9	2.1	0.63
Perfluorooctanesulfonamide (FOSA)	0	0%					
Perfluorooctanesulfonic acid (PFOS)	7	88%	1.8	7.6	4.8	5.4	2.19
Perfluorooctanoic acid (PFOA)	6	75%	2.2	5.7	3.8	3.6	1.33
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	0	0%					
Perfluorodecanesulfonic acid (PFDS)	0	0%					
Perfluorodecanoic acid (PFDA)	0	0%					
Perfluorododecanoic acid (PFDoA)	0	0%					
Perfluorotridecanoic acid (PFTrDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	0	0%					
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	1	13%	2.6	2.6	2.6	2.6	0.00
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%					
N-EtFOSAA	0	0%					
N-MeFOSAA	0	0%					

Summary Table of all WPCFs - Surface Water Upstream							
PFAS (ng/l)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
11CI-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9CI-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	0	0%					
Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	0	0%					
Perfluoro-1-butanedisulfonamide (FBSA)	0	0%					
Perfluoro-1-hexanedisulfonamide (FHxSA)	0	0%					
Perfluoro-4-oxapentanoic acid (PFMPA)	0	0%					
Perfluoro-5-oxahexanoic acid (PFMBA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	6	60%	0.00	4.10	1.32	1.35	1.30
Perfluorobutanoic acid (PFBA)	1	10%	0.00	6.90	0.69	0.00	2.07
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	4	40%	0.00	62.00	7.18	0.00	18.34
Perfluorohexanesulfonic acid (PFHxS)	4	40%	0.00	2.40	0.71	0.00	0.94
Perfluorohexanoic acid (PFHxA)	6	60%	0.00	53.00	6.43	1.30	15.58
Perfluoroheptanesulfonic acid (PFHpS)	0	0%					
Perfluoroheptanoic acid (PFHpA)	4	40%	0.00	6.20	1.13	0.00	1.86
Perfluorooctanesulfonamide (FOSA)	0	0%					
Perfluorooctanesulfonic acid (PFOS)	6	60%	0.00	11.00	3.02	2.70	3.32
Perfluorooctanoic acid (PFOA)	5	50%	0.00	30.00	4.29	0.90	8.72
Perfluorononanesulfonic acid (PFNS)	0	0%					
Perfluorononanoic acid (PFNA)	0	0%					
Perfluorodecanesulfonic acid (PFDS)	0	0%					
Perfluorodecanoic acid (PFDA)	1	10%	0.00	2.70	0.27	0.00	0.81
Perfluorododecanoic acid (PFDoA)	0	0%					
Perfluorotridecanoic acid (PFTrDA)	0	0%					
Perfluorotetradecanoic acid (PFTA)	0	0%					
Perfluoroundecanoic acid (PFUnA)	0	0%					
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	0	0%					
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%					
N-EtFOSAA	0	0%					
N-MeFOSAA	0	0%					

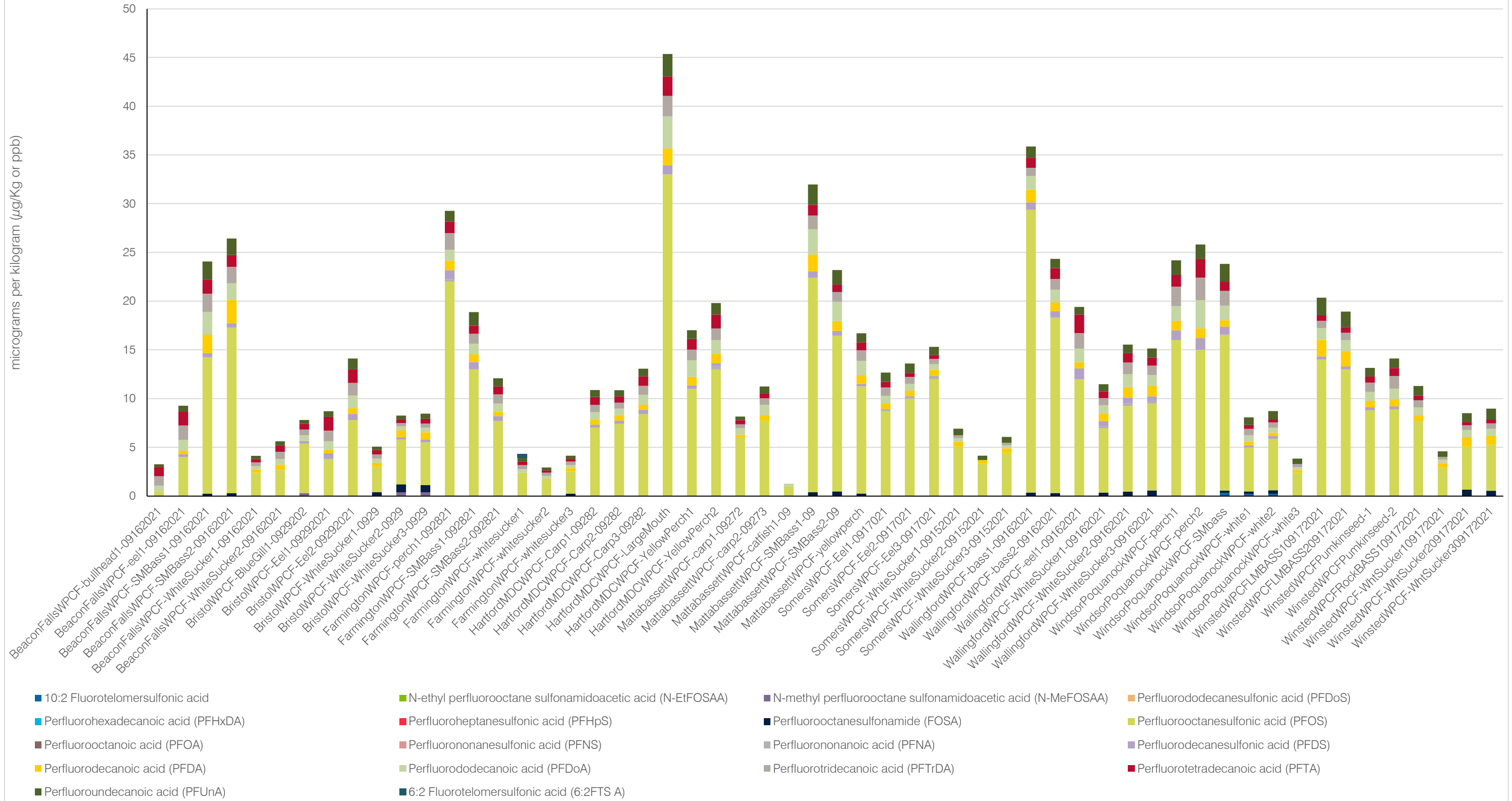
### Surface Water Summary PFAS Reported in >50% of Samples



**TABLE 12**  
**FISH STATISTICAL SUMMARY**  
**CT DEEP WPCF PFAS STUDY**  
**VARIOUS WPCF LOCATIONS, CONNECTICUT**

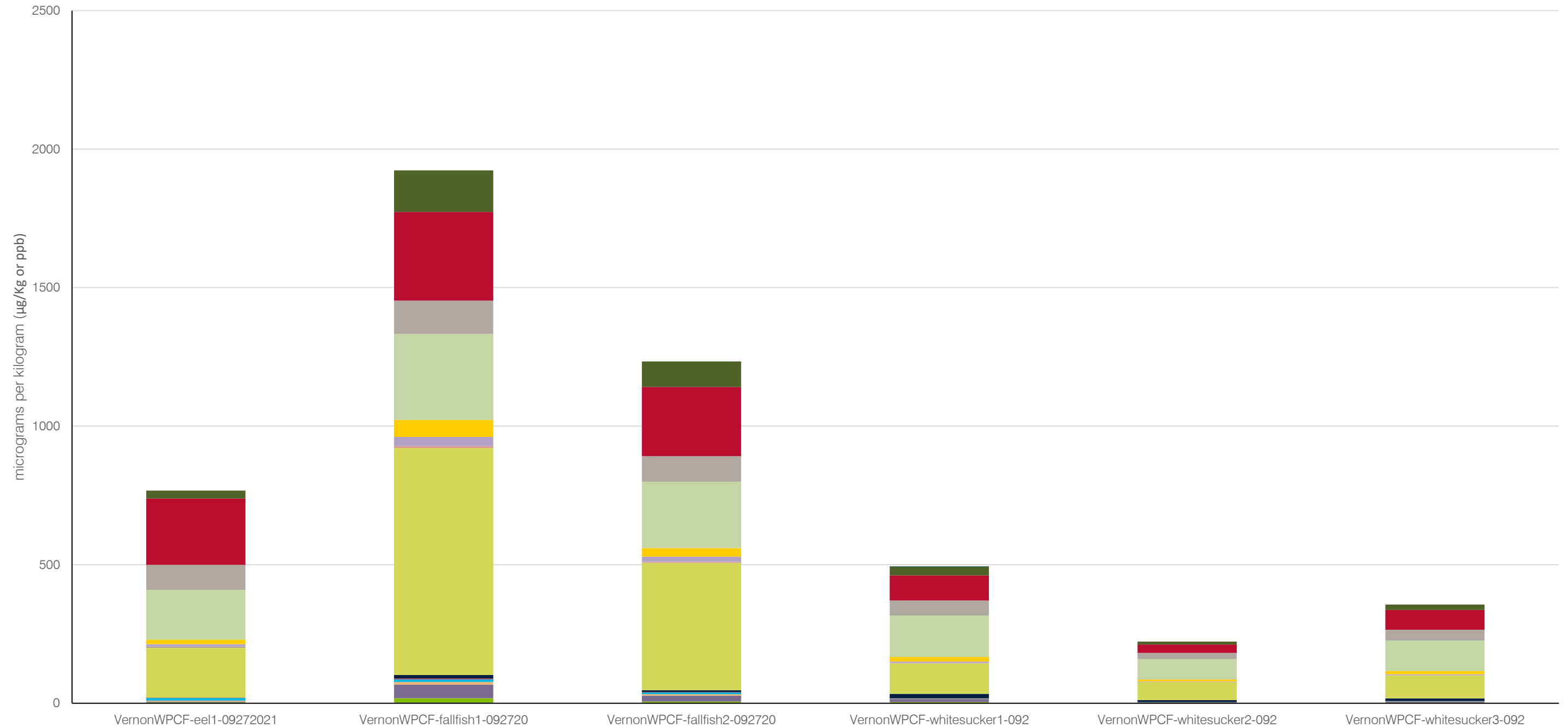
Summary Table of all WPCFs - Fish Tissue							
PFAS (ug/Kg)	Number of detections	Detection Percent	Minimum Concentration	Maximum Concentration	Average Concentration	Median Concentration	Standard Deviation
10:2 Fluorotelomersulfonic acid	8	13%	0.00	1.90	0.10	0.00	0.33
N-ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	6	10%	0.00	16.0	0.46	0.00	2.14
N-ethylperfluorooctane sulfonamide (N-EtFOSA)	0	0%					
N-ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	0	0%					
N-methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	9	15%	0.00	49.0	1.46	0.00	6.79
N-methylperfluorooctane sulfonamide (N-MeFOSA)	0	0%					
N-methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	0	0%					
Perfluorododecanesulfonic acid (PFDoS)	6	10%	0.00	9.30	0.31	0.00	1.37
Perfluorohexadecanoic acid (PFHxDA)	6	10%	0.00	9.60	0.45	0.00	1.86
Perfluorooctadecanoic acid (PFODA)	0	0%					
11Cl-PF3OUdS (F53B Major)	0	0%					
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0	0%					
9Cl-PF3ONS (F53B Minor)	0	0%					
Hexafluoropropylene oxide dimer acid (HFPO-DA)	0	0%					
Perfluorobutanesulfonic acid (PFBS)	0	0%					
Perfluorobutanoic acid (PFBA)	0	0%					
Perfluoropentanesulfonic Acid (PFPeS)	0	0%					
Perfluoropentanoic acid (PFPeA)	0	0%					
Perfluorohexanesulfonic acid (PFHxS)	4	6%	0.00	0.35	0.02	0.00	0.07
Perfluorohexanoic acid (PFHxA)	0	0%					
Perfluoroheptanesulfonic acid (PFHpS)	5	8%	0.00	2.60	0.09	0.00	0.38
Perfluoroheptanoic acid (PFHpA)	0	0%					
Perfluorooctanesulfonamide (FOSA)	25	40%	0.00	16.0	0.97	0.00	2.97
Perfluorooctanesulfonic acid (PFOS)	62	100%	0.47	820	35.97	8.55	118.23
Perfluorooctanoic acid (PFOA)	1	2%	0.00	0.72	0.01	0.00	0.09
Perfluorononanesulfonic acid (PFNS)	6	10%	0.00	6.30	0.20	0.00	0.92
Perfluorononanoic acid (PFNA)	14	23%	0.00	2.80	0.14	0.00	0.41
Perfluorodecanesulfonic acid (PFDS)	41	66%	0.00	32	1.40	0.31	4.66
Perfluorodecanoic acid (PFDA)	57	92%	0.00	62	2.98	0.67	8.99
Perfluorododecanoic acid (PFDoA)	61	98%	0.00	310	18.07	0.95	57.64
Perfluorotridecanoic acid (PFTriDA)	60	97%	0.00	120	7.53	0.90	22.87
Perfluorotetradecanoic acid (PFTA)	56	90%	0.00	320	16.83	0.79	59.46
Perfluoroundecanoic acid (PFUnA)	61	98%	0.00	150	6.18	0.89	22.33
4:2 Fluorotelomersulfonic acid (4:2FTS A)	0	0%					
6:2 Fluorotelomersulfonic acid (6:2FTS A)	2	3%	0.00	1.40	0.03	0.00	0.18
8:2 Fluorotelomersulfonic acid (8:2FTS A)	0	0%					

### Fish Tissue Summary All Reported PFAS (Vernon WPCF Excluded)





Fish Tissue Summary  
All Reported PFAS  
(Vernon Only)



- 10:2 Fluorotelomersulfonic acid
- Perfluorohexadecanoic acid (PFHxDA)
- Perfluorooctanoic acid (PFOA)
- Perfluorodecanoic acid (PFDA)
- Perfluoroundecanoic acid (PFUnA)
- N-ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)
- Perfluoroheptanesulfonic acid (PFHpS)
- Perfluorononanesulfonic acid (PFNS)
- Perfluorododecanoic acid (PFDoA)
- 6:2 Fluorotelomersulfonic acid (6:2FTS A)
- N-methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)
- Perfluorooctanesulfonamide (FOSA)
- Perfluorononanoic acid (PFNA)
- Perfluorotridecanoic acid (PFTTrDA)
- Perfluorododecanesulfonic acid (PFDoS)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorodecanesulfonic acid (PFDS)
- Perfluorotetradecanoic acid (PFTA)