NORTH Dakota | Environmental Quality
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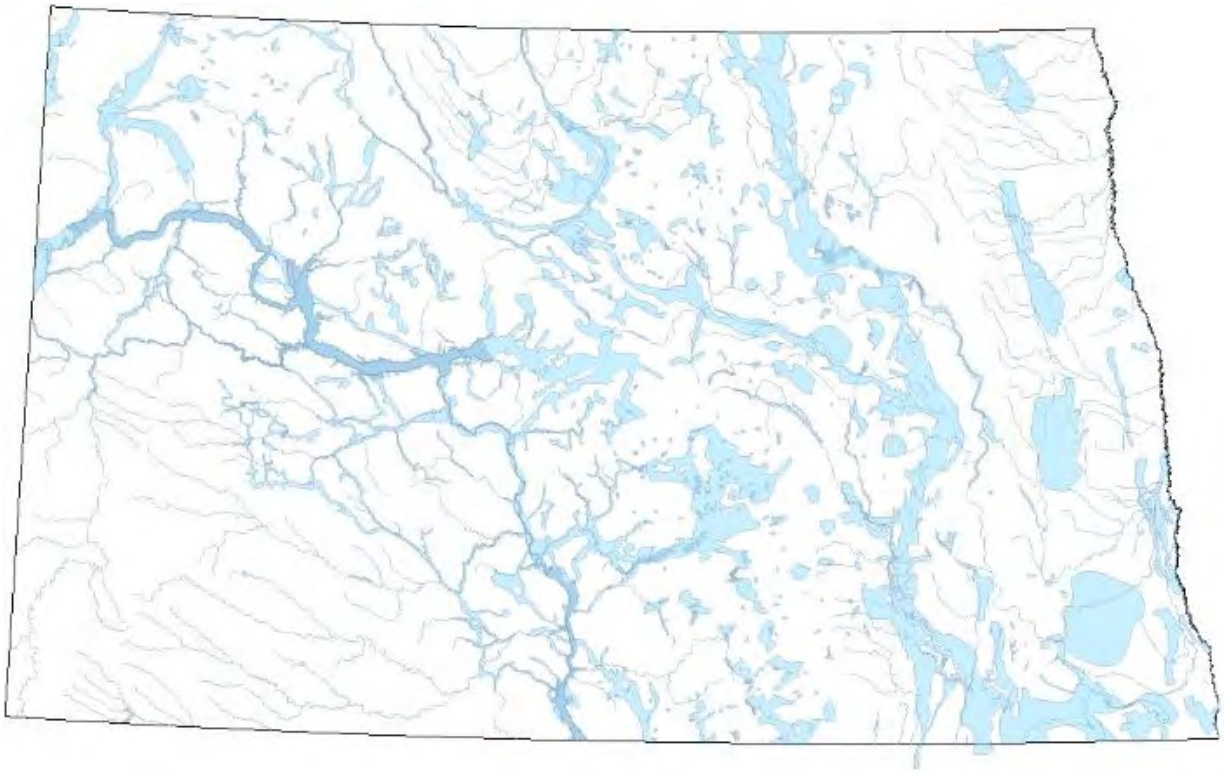
North Dakota Department of Environmental Quality

North Dakota Statewide 2020 Per- and Polyfluoroalkyl Substances (PFAS) Presence/Absence Survey



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Abbreviations and Acronyms

Environmental Health Section	EHS
Nanograms per liter	ng/l
North Dakota Department of Environmental Quality	NDDEQ
Parts Per Trillion	ppt
Per -and Polyfluoroalkyl Substances	PFAS
11-Chloroeicosafluro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS
4,8-Dioxa-3*H*-perfluorononanoic acid	ADONA
Hexafluoropropylene oxide dimer acid	HFPO-DA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluoroundecanoic acid	PFUnA
Perfluoro-n-tridecanoic acid	PFTrDA
Perfluoro-n-tetradecanoic acid	PFTA
N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA
N-ethylperfluoro-1-octanesulfonamidoacetic acid	NEtFOSSA
Quality Assurance/Quality Control	QA/QC
Third Unregulated Contaminated Monitoring Rule	UCMR3
U.S Environmental Protection Agency	EPA

Non-Detect	ND
Reverse Osmosis	RO
Liquid Chromatography with tandem mass spectrometry	LC-MSMSC

Executive Summary

The Environmental Health Section (EHS) of the North Dakota Department of Health* (NDDoH) created a workgroup in April 2018 to conduct a baseline survey to determine the presence/absence of per- and polyfluoroalkyl substances (PFAS) in North Dakota. In 2018, the workgroup took samples from various sites where PFAS would potentially be present such as landfills, drinking water treatment plants, wastewater treatment plants, and fire training areas.

**The EHS Section migrated to an official standalone agency, the North Dakota Department of Environmental Quality (NDDEQ), in July 2019.*

Drinking Water Treatment Plant Results

The North Dakota Department of Environmental Quality (NDDEQ) sampled 55 drinking water treatment plants in October 2020. Only three systems yielded positive detections, with only one sample having a PFAS concentration high enough to be quantifiable. None of the three detections were for PFAS contaminants with a health advisory and none of the detections were above ten parts per trillion (ppt).

The DEQ collected fifty-five out of fifty-six samples from drinking water plants after treatment at the entry point to the distribution system. Samples from drinking water systems that purchase water from another drinking water system were collected at the first tap after the meter pit. The one sampling exception was for a source water sample. In this case, the system had reverse osmosis treatment, which would remove most, if not all, the PFAS. The source water testing in this situation did not detect PFAS.

Duplicate Samples

The DEQ did not use field reagent blanks in this sampling but planned to use them if a drinking water system was resampled. Six duplicates were collected throughout the sampling process to ensure quality control. Laboratory analytical results showed no detections in these duplicates, suggesting no contamination occurred during samples collection or transportation.

Improved Methods

Methods used to test for PFAS improved since 2018. New testing expanded the range of analytes with the ability to test for multiple analytes that were not covered under the previous method, increasing the accuracy of the 2020 sampling results.

1.0 Introduction

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals manufactured and used in various industries in the United States since the 1940s. These chemicals are persistent in the environment and the human body, and there is evidence to suggest that their presence can have adverse effects on human health.

On April 6, 2018, the Environmental Health Section of the NDDoH* created a workgroup to conduct a baseline survey to determine the presence/absence of PFAS in North Dakota. The workgroup took samples from various sites where PFAS would potentially be present such as landfills, drinking water treatment plants, wastewater treatment plants, and fire training areas.

**The EHS Section migrated to an official standalone agency, the North Dakota Department of Environmental Quality (NDDEQ), in July 2019.*

After the conclusion of the initial presence-absence study, the PFAS workgroup conducted another round of presence-absence testing for PFAS, this time with a focus on public drinking water systems in North Dakota.

2.0 Background

PFAS are a large, complex group of man-made fluorinated organic compounds discovered in 1938 and have been mass-produced since 1947 (Prevedouros et al., 2006; Griffith, 2017). More than 6,000 PFAS compounds exist, although not all are in current use or production. PFAS are made when the hydrogen ions on a carbon chain are either completely or partially replaced with fluorine ions, resulting in a carbon-fluorine bond that makes these compounds resistant to most degradation processes, including microorganisms, direct light, atmospheric photooxidation, and hydrolysis (Haley Aldrich, 2018).

PFAS compounds have become essential in many industries due to their useful and unique properties. They are chemically stable, reduce surface tension to a much lower state than other surfactants, repel water and oil, possess friction-reducing properties, and function in environments where other products would degrade (3M, 1999). These properties have given rise to various industrial and commercial products that are resistant to oil, grease, water, soil, and stains. Manufacturers use PFAS compounds in firefighting foams, metal plating, coating formulations, polyurethane production, inks, varnishes, and lubricants (3M, 1999; Prevedouros et al., 2006). Additionally, they are considered vital in the aviation, mining and gas, photographic imaging, semiconductor, automotive, construction, and electronics industries (ITRC, 2017).

Between 2013 and 2015, the U.S. EPA sampled 13 public water systems in North Dakota for six of the most detected PFAS compounds: Perfluorooctanesulfonic acid (PFOS), Perfluorooctanoic acid (PFOA), perfluorobutanesulfonic acid (PFBS), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorononanoic acid (PFNA) under the EPA's Third Unregulated Contaminant Monitoring Rule (UCMR3). Although the results from the UCMR3 sampling indicated no PFAS compounds were present, the workgroup decided to administer additional sampling since the methods for detection and quantitation for these compounds have improved. The results for the UCMR are displayed below in Table 1.

Table 1: UCMR Results

System	Number of Samples	PFOS (PPT)	PFOA (PPT)	PFBS (PPT)	PFHpA (PPT)	PFHxS (PPT)	PFNA (PPT)
Beulah	2	< 40	< 20	< 90	< 10	< 30	< 20
Bismarck	4	< 40	< 20	< 90	< 10	< 30	< 20
Dickinson	4	< 40	< 20	< 90	< 10	< 30	< 20
Fargo	4	< 40	< 20	< 90	< 10	< 30	< 20
Glen Ullin	4	< 40	< 20	< 90	< 10	< 30	< 20
Grand Forks	4	< 40	< 20	< 90	< 10	< 30	< 20
Jamestown	2	< 40	< 20	< 90	< 10	< 30	< 20
Mandan	4	< 40	< 20	< 90	< 10	< 30	< 20
Minot AFB	2	< 40	< 20	< 90	< 10	< 30	< 20
Minot	4	< 40	< 20	< 90	< 10	< 30	< 20
Napoleon	2	< 40	< 20	< 90	< 10	< 30	< 20
West Fargo	14	< 40	< 20	< 90	< 10	< 30	< 20
Williston	4	< 40	< 20	< 90	< 10	< 30	< 20
Total	54	All NDs	All NDs	All NDs	All NDs	All NDs	All NDs

In 2018 NDDEQ conducted its first round of voluntary sampling at 47 sites, including 13 landfills, 12 groundwater sites, ten wastewater treatment plants, seven drinking water treatment plants, four fire training areas, and one reverse osmosis (RO)-purified laboratory-grade water. Overall, 42 of the 47 sites sampled (of which only seven were drinking water systems) in the 2018 study had positive detections of PFAS. This first round's full details are on page eight of *the North Dakota Statewide 2018 Per- and Polyfluoroalkyl Substances (PFAS) Presence/Absence Survey* (NDDEQ 2018).

3.0 Study

The workgroup, now part of the NDDEQ, was tasked with narrowing the PFAS

investigation to assess the presence or absence of PFAS in drinking water sources statewide. The second round of monitoring collected a minimum of one drinking water sample per county. Monitoring was completed in 2020 and exceeded its goal with a total of 62 samples (53 counties + 3 opportunistic samples + 6 QA/QC samples). The results provide information on the presence/absence of PFAS in drinking water sources across the state of North Dakota. Results are publicly available at deq.nd.gov/MF.

3.1 Site Selection

As previously mentioned, during October 2020, 56 drinking water samples were collected from 55 public water systems in North Dakota to determine if there was a PFAS presence in a representative portion of the state's public water supply. The DEQ chose sampling locations in at least one drinking water system per county. In many counties, samples came from consecutive water systems because all drinking water systems in some counties are consecutive users of rural water providers.

In cases where the county had multiple public water systems to choose from, water systems were targeted for sampling based on population served and well depth.

3.2 Sample Procedures

Because of PFAS chemicals' prevalence in most everyday items and the high sensitivity of analytical equipment, sampling protocols for PFAS are stringent to avoid contamination of samples.

The equipment used for sampling is single-use and PFAS-free to lessen the chance of cross-contamination between sampling sites. The testing laboratory provided sample bottles and coolers, and samplers wore nitrile gloves during collection.

To minimize risk to project staff during the COVID-19 pandemic, staff did not enter treatment plants to collect samples themselves. Instead, all samples were collected by water system operators and then given to the project staff for transport and shipping to the designated PFAS lab.

Of the 56 samples collected in 2020, 55 of them were treated water. Systems that treat their water collected at the entry point to their distribution systems. Consecutive user systems collected at the first accessible non-residential tap downstream of their meter pit (i.e., city hall tap, local fire department, gas station, etc.). Samplers avoided collection inside residential sites due to the pandemic.

The one remaining sample was collected as a source water sample because the

treatment plant has RO treatment, which would have removed much of any PFAS in the source water.

Sampling and standard operating procedures can be found in the *North Dakota Department of Environmental Quality North Dakota Statewide Per- And Polyfluoroalkyl Substances (PFAS) Field Sampling Plan* (NDDEQ, 2020A).

A list of systems sampled is in Table 2.

TABLE 2: Systems Sampled

System	Counties	Sample Type
Garrison	McLean	Treated Water
Towner	McHenry	Treated Water
Rugby	Pierce	Treated Water
All Seasons IV	Rolette	Treated Water
Warwick	Benson	Treated Water
Central Plains	Wells	Treated Water
Robinson	Kidder	Treated Water
Stutsman Rural	Stutsman	Treated Water
Bottineau	Bottineau	Treated Water
McClusky	Sheridan	Treated Water
South Central RWD	Emmons	Source Water
South Central RWD	Emmons	Treated Water
Napoleon	Logan	Treated Water
Wishek	McIntosh	Treated Water
Oakes Golf Club	Dickey	Treated Water
Willowbank Colony	Lamoure	Treated Water
Mandan	Morton	Treated Water
Millton R. Young Station	Oliver	Treated Water
Elgin	Grant	Treated Water
Wing	Burleigh	Treated Water
Killdeer Lodge	Dunn	Treated Water
Solen	Sioux	Treated Water
Burning Hills Amphitheater	Billings	Treated Water
Beach	Golden Valley	Treated Water
Mott	Hettinger	Treated Water
Barnes Rural Water	Barnes	Treated Water
Mott	Hettinger	Treated Water
Barnes Rural Water	Barnes	Treated Water
Agassiz Water users District	Grand Forks	Treated Water
Hope	Steele	Treated Water
South West Water Authority	Stark	Treated Water

TABLE 2: Systems Sampled

System	Counties	Sample Type
Hettinger	Adams	Treated Water
Marmarth	Slope	Treated Water
Bowman	Wells	Treated Water
Burlington	Ward	Treated Water
Glenburn	Renville	Treated Water
Powers Lake	Burke	Treated Water
Ambrose	Divide	Treated Water
Williston	Williams	Treated Water
Arnegard Diamond Estates	McKenzie	Treated Water
New Town	Mountrail	Treated Water
South West Water Authority-OMND	Mercer	Treated Water
Beulah	Mercer	Treated Water
New Rockford	Eddy	Treated Water
Carrington	Foster	Treated Water
Dakota RWD-South	Griggs	Treated Water
Michigan	Nelson	Treated Water
Park River	Walsh	Treated Water
Northeast RWD-North Valley Branch	Pembina	Treated Water
Cando	Towner	Treated Water
Northeast RWD-Langdon Branch	Cavalier	Treated Water
Devils Lake	Ramsey	Treated Water
Cass Rural Water Phase 2	Cass	Treated Water
Harwood	Cass	Treated Water
Lisbon	Ransom	Treated Water
Sundale Colony	Sargent	Treated Water
Wahpeton	Richland	Treated Water
Hillsboro	Traill	Treated Water

3.3 Sample Analysis

The NDDEQ selected SGS North America laboratory via the state procurement process to perform the PFAS analysis. PFAS samples were analyzed using an LC-MS/MS by method 537.1, a drinking water specific method. This method analyzes the water for 18 analytes listed in Table 3.

4.0 Quality Assurance/Quality Control

The NDDEQ established QA/QC procedures to ensure that the collected data was accurate and reliable. Detailed QA/QC procedures are outlined in the *Quality*

Assurance Project Plan for the North Dakota Statewide Per- And Polyfluoroalkyl Substances (PFAS) Assessment (NDDoH, 2020B).

5.0 Results

A total of 62 samples, including duplicate samples, were collected and analyzed from 55 public water systems, which covered all 53 counties in North Dakota.

The collected samples were submitted to SGS North America to be analyzed. Table 3 lists the standard PFAS analytes sampled under Method 537.1 and, if available, their abbreviations.

Overall laboratory analytical results indicated three detections, only one of which was high enough to be quantifiable. The quantifiable result was below 10 ppt. None of the three detections were for PFOS or PFOA, which have a health advisory attributed to them.

Appendix A presents the samples with detected analytes. Complete analytical laboratory results are in Appendix B.

TABLE 3 PFAS Analytes and Abbreviations

PARAMETER/ANALYTE	FULL /CHEMICAL NAME
NEtFOSAA	N-ethyl perfluorooctanesulfonamidoacetic acid
NMeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid
PFBS	Perfluorobutanesulfonoic Acid
PFDA	Perfluorodecanoic acid
PFDoA	Perfluorododecanoic acid
PFHpA	Perfluoroheptanoic acid
PFHpA	Perfluorohexanoic acid
PFHxS	Perfluorohexanesulfonic Acid
PFNA	Perfluorononanoic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic Acid
PFTreA	Perfluorotetradecanoic acid
PFTriA	Perfluorotridecanoic acid
PFuNA	Perfluoroundecanoic acid
NaDONA	4,8-dioxa-3H-perfluorononanoic acid
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
HFPO-DA (GenX)	Hexafluoropropylene oxide dimer acid

6.0 Conclusions

The survey aimed to determine the presence or absence of PFAS in public drinking water within North Dakota.

The NDDEQ has tested drinking water consumed by approximately 65 percent of the state's population served by regulated public water systems for PFAS. All samples indicated drinking water levels below ten ppt for PFOS and PFOA combined.

Although only a subset of North Dakota's public water systems has been tested, the results indicate that North Dakota's public drinking waters do not appear to be a significant source of environmental PFAS. Future testing should also be targeted at landfills and wastewater treatment plant effluents and additional drinking water sources.

7.0 References

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Schultz, M., C. P. Higgins, C. A. Huset, R. G. Luthy, D. F. Barofsky, and J. A. Field. 2006. "Fluorochemical Mass Flows in a Municipal Wastewater Treatment Facility." Environmental Science and Technology 40: 7350-7357.

NDDEQ. 2018. North Dakota Statewide 2018 Per- and Polyfluoroalkyl Substances (PFAS) Presence/Absence Survey

Appendix A: Detectable Results Summary

Client Sample ID: **Oaks Golf Club-DW**				
Lab Sample ID: 32001921017-A	Parameter	Result	Units	
EPA 537.1	PFHxS	2.14	ng/L	J
Client Sample ID: **Willowbank Colony-DW**				
Lab Sample ID: 32001921018-A	Parameter	Result	Units	
EPA 537.1	9Cl-PF3ONS	8.33	ng/L	
Client Sample ID: **Michigan-DW**				
Lab Sample ID: 32001921046-A	Parameter	Result	Units	
EPA 537.1	PFuNA	0.485	ng/L	J

*J - is an estimated concentration of a detection below the Limit of Quantitation

Appendix B: Laboratory Results

FINAL LAB REPORT

PFAS Study

32001921

05-Nov-2020

Prepared by

SGS NORTH AMERICA

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Results reported relate only to the items tested.

SGS CERTIFICATIONS

Alaska	17-012
Arkansas	88-0682
California (ELAP)	ELAP Cert #2914
CLIA	34D1013708
Connecticut	PH-0258
USDA Soil Permit	P330-20-00103
American Association for Laboratory Accreditation (A2LA)	2726.01 (ISO 17025:2017, 2009 TNI, DoD ELAP QSM 5.3)
Florida DOH	E87634
Louisiana DEQ	4115
Louisiana DOH	LA031
Maine	2020019
Massachusetts	M-NC919
Michigan	9950
Minnesota (Primary NELAP For Method 23)	037-999-459
Montana	0106
New Hampshire (Primary NELAP)	2085
New Hampshire (Secondary NELAP)	2083
New Jersey	NC100
New York	11685
North Carolina DEQ	481
North Dakota	R-197
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029002
Texas	T104704260
US Coast Guard	16714/159.317/SGS
Vermont	VT-87634
Virginia	460214
Washington	C913

Rev. 21-Oct-2020

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
J	Estimated Concentration.
E	Amount detected is greater than the Upper Calibration Limit
TIC	Tentatively Identified Compound
ND	Not Detected
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
Garrison-DW	32001921001	10/12/2020 10:00	10/19/2020 09:10	Drinking Water
Towner-DW	32001921002	10/12/2020 11:50	10/19/2020 09:10	Drinking Water
Rugby-DW	32001921003	10/12/2020 13:45	10/19/2020 09:10	Drinking Water
All Seasons IV	32001921004	10/12/2020 15:00	10/19/2020 09:10	Drinking Water
Yellow-DW-Dup	32001921005	10/12/2020 15:00	10/19/2020 09:10	Drinking Water
Warwick-DW	32001921006	10/13/2020 10:00	10/19/2020 09:10	Drinking Water
Central Plains-DW	32001921007	10/13/2020 12:30	10/19/2020 09:10	Drinking Water
Robinson-DW	32001921008	10/14/2020 09:00	10/19/2020 09:10	Drinking Water
Stutsman Rural-DW	32001921009	10/13/2020 14:30	10/19/2020 09:10	Drinking Water
Bottineau-DW	32001921010	10/13/2020 07:45	10/19/2020 09:10	Drinking Water
McClusky-DW	32001921011	10/12/2020 09:00	10/19/2020 09:10	Drinking Water
SCRWD Emmons-DW	32001921012	10/12/2020 16:21	10/19/2020 09:10	Drinking Water
SCRWD Emmons SOURCE-DW	32001921013	10/12/2020 16:21	10/19/2020 09:10	Drinking Water
Purple DUP-DW	32001921014	10/12/2020 14:45	10/19/2020 09:10	Drinking Water
Napoleon-DW	32001921015	10/12/2020 14:45	10/19/2020 09:10	Drinking Water
Wishek-DW	32001921016	10/12/2020 13:56	10/19/2020 09:10	Drinking Water
Oaks Golf Club-DW	32001921017	10/12/2020 11:18	10/19/2020 09:10	Drinking Water
Willowbank Colony-DW	32001921018	10/12/2020 10:13	10/19/2020 09:10	Drinking Water
Mandan-DW	32001921019	10/13/2020 08:24	10/19/2020 09:10	Drinking Water
Milton R. Young Station-DW	32001921020	10/13/2020 09:47	10/19/2020 09:10	Drinking Water
Elgin-DW	32001921021	10/13/2020 10:53	10/19/2020 09:10	Drinking Water
Wing-DW	32001921022	10/14/2020 08:55	10/19/2020 09:10	Drinking Water
Killdeer Lodge-WW	32001921023	10/13/2020 11:00	10/19/2020 09:10	Drinking Water
Solen (Sioux)-DW	32001921024	10/14/2020 08:00	10/19/2020 09:10	Drinking Water
Burning Hills Ave-WW	32001921025	10/13/2020 09:30	10/19/2020 09:10	Drinking Water
Beach-DW	32001921026	10/13/2020 08:30	10/19/2020 09:10	Drinking Water
Mott (Hettinger)-DW	32001921027	10/14/2020 08:30	10/19/2020 09:10	Drinking Water
SWA (Clark)(New Plant)-DW	32001921028	10/14/2020 10:00	10/19/2020 09:10	Drinking Water
Hettinger-DW	32001921029	10/15/2020 08:30	10/19/2020 09:10	Drinking Water
Mormath (Slope)-DW	32001921030	10/15/2020 11:30	10/19/2020 09:10	Drinking Water
Bowman-DW	32001921031	10/15/2020 09:30	10/19/2020 09:10	Drinking Water
Killdeer Lodge-DW	32001921032	10/13/2020 11:00	10/19/2020 09:10	Drinking Water
Burlington-DW	32001921033	10/14/2020 13:25	10/19/2020 09:10	Drinking Water
Glenburn-DW	32001921034	10/14/2020 11:55	10/19/2020 09:10	Drinking Water
Powers Lake-DW	32001921035	10/14/2020 10:10	10/19/2020 09:10	Drinking Water
Ambrose-DW	32001921036	10/14/2020 08:20	10/19/2020 09:10	Drinking Water
Blue Duplicate-DW	32001921037	10/13/2020 15:40	10/19/2020 09:10	Drinking Water
Williston-DW	32001921038	10/13/2020 15:40	10/19/2020 09:10	Drinking Water
Arnegard Diamond Estates-DW	32001921039	10/13/2020 14:25	10/19/2020 09:10	Drinking Water
New Town-DW	32001921040	10/13/2020 12:50	10/19/2020 09:10	Drinking Water
OMND Plant-DW	32001921041	10/13/2020 09:40	10/19/2020 09:10	Drinking Water
Beulah-DW	32001921042	10/13/2020 08:30	10/19/2020 09:10	Drinking Water
New Rockford-DW	32001921043	10/13/2020 10:15	10/19/2020 09:10	Drinking Water
Carrington-DW	32001921044	10/13/2020 09:30	10/19/2020 09:10	Drinking Water
Dakota RWD-South-DW	32001921045	10/14/2020 10:40	10/19/2020 09:10	Drinking Water
Michigan-DW	32001921046	10/14/2020 09:20	10/19/2020 09:10	Drinking Water
Park River-DW	32001921047	10/14/2020 08:10	10/19/2020 09:10	Drinking Water

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
Green-Duplicate	32001921048	10/13/2020 15:45	10/19/2020 09:10	Drinking Water
Northeast RWD-NorthValley-DW	32001921049	10/13/2020 15:45	10/19/2020 09:10	Drinking Water
Cando-DW	32001921050	10/13/2020 14:00	10/19/2020 09:10	Drinking Water
Northeast RWD-Langdon-DW	32001921051	10/13/2020 13:15	10/19/2020 09:10	Drinking Water
Devils Lake-DW	32001921052	10/13/2020 11:45	10/19/2020 09:10	Drinking Water
Cass Rural Water P2-DW	32001921053	10/14/2020 08:45	10/19/2020 09:10	Drinking Water
Harwood, ND-DW	32001921054	10/14/2020 07:15	10/19/2020 09:10	Drinking Water
Lisbon, ND-DW	32001921055	10/14/2020 12:10	10/19/2020 09:10	Drinking Water
Sundale Colony-DW	32001921056	10/14/2020 11:40	10/19/2020 09:10	Drinking Water
Wahpeton, ND-DW	32001921057	10/14/2020 09:55	10/19/2020 09:10	Drinking Water
Hillsboro, ND-DW	32001921058	10/13/2020 16:30	10/19/2020 09:10	Drinking Water
Duplicate-DW-Orange	32001921059	10/13/2020 16:30	10/19/2020 09:10	Drinking Water
Barnes RW-DW	32001921060	10/13/2020 11:05	10/19/2020 09:10	Drinking Water
Agassiz RW-DW	32001921061	10/13/2020 15:00	10/19/2020 09:10	Drinking Water
Hope, ND-DW	32001921062	10/13/2020 12:30	10/19/2020 09:10	Drinking Water

Case Narrative

Agassiz RW-DW

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Duplicate-DW-Orange

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Elgin-DW

Surrogate 13C3-HFPO-DA recovery is marginally above criteria. There are no detectable results for the associated compound therefore data is not affected.

Green-Duplicate

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Hillsboro, ND-DW

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Hope, ND-DW

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Mandan-DW

Surrogate 13C3-HFPO-DA recovery is above criteria. There are no detectable results for the associated compound therefore data is not affected.

MB for HBN 151493 [HXX/2635]

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Batch was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Napoleon-DW

Surrogate 13C3-HFPO-DA recovery is above criteria. There are no detectable results for the associated compound therefore data is not affected.

Purple DUP-DW

Surrogate 13C3-HFPO-DA recovery is above criteria. There are no detectable results for the associated compound therefore data is not affected.

Robinson-DW(240356MS3)

Surrogate 13C2-PFHxA recovery is marginally below criteria due to probable matrix interference demonstrated by passing LCS.

SCRWD Emmons SOURCE-DW

E537.1-DW: Ring of brown sediment observed at bottom of sample bottle. Sample required 2 cartridges to elute. Large amounts of water in cartridge elutions, taking many hours to blow down.

Case Narrative

SCRWD Emmons-DW

Surrogate 13C3-HFPO-DA recovery is marginally above criteria. There are no detectable results for the associated compound therefore data is not affected.

Solen (Sioux)-DW

Surrogate recovery for d5-NEtFOSAA is marginally below criteria. Sample was not re-extracted due to expired hold time. The associated compounds PFuNA, PFTriA, PFTreA, PFBS, PFHxS, NMeFOSAA, and NEtFOSAA may potentially be biased low.

Warwick-DW(240354MS2)

Native PFuNA recovery is marginally above criteria due to probable matrix interference demonstrated by passing LCS. Surrogate 13C3-HFPO-DA recovery is marginally below criteria due to probable matrix interference demonstrated by similar recovery in the parent sample.

Wing-DW(240371DUP)

Surrogate d5-NEtFOSAA recovery is below criteria due to probable matrix interference.

Wishek-DW

Surrogate 13C3-HFPO-DA recovery is above criteria. There are no detectable results for the associated compound therefore data is not affected.

Yellow-DW-Dup

Surrogate 13C3-HFPO-DA recovery is marginally above criteria. There are no detectable results for the associated compound therefore data is not affected.

Detectable Results Summary

Client Sample ID: **Oaks Golf Club-DW**
Lab Sample ID: 32001921017-A

	Parameter	Result	Units	
EPA 537.1	PFHxS	2.14	ng/L	J

Client Sample ID: **Willowbank Colony-DW**
Lab Sample ID: 32001921018-A

	Parameter	Result	Units	
EPA 537.1	9Cl-PF3ONS	8.33	ng/L	

Client Sample ID: **Michigan-DW**
Lab Sample ID: 32001921046-A

	Parameter	Result	Units	
EPA 537.1	PFuNA	0.485	ng/L	J

Parameter Cross Reference

SURROGATE

PARAMETER	CASNO	FULL_NAME
13C2-PFDA	13CPFDA	13C2-PerFluorodecanoic Acid
13C2-PFHxA	13CPFHXA	13C2-Perfluoro-n-hexanoic Acid
d5-NEtFOSAA	1265205-97-7	d5-N-ethyl-perfluoro-1-octanesulfonamidoacetic
13C3-HFPO-DA		13C3-HFPO-DA

REGULAR

PARAMETER	CASNO	FULL_NAME
NEtFOSAA	2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid
NMeFOSAA	2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid
PFBS	375-73-5	Perfluorobutanesulfonoic Acid
PFDA	335-76-2	Perfluorodecanoic acid
PFDoA	307-55-1	Perfluorododecanoic acid
PFHpA	375-85-9	Perfluoroheptanoic acid
PFHxA	307-24-4	Perfluorohexanoic acid
PFHxS	355-46-4	Perfluorohexanesulfonic Acid
PFNA	375-95-1	Perfluorononanoic acid
PFOA	335-67-1	Perfluorooctanoic acid
PFOS	1763-23-1	Perfluorooctanesulfonic Acid
PFTreA	376-06-7	Perfluorotetradecanoic acid
PFTriA	72629-94-8	Perfluorotridecanoic acid
PFuNA	2058-94-8	Perfluoroundecanoic acid
NaDONA	919005-14-4	4,8-dioxa-3H-perfluorononanoic acid
9Cl-PF3ONS	756426-58-1	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
11Cl-PF3OUdS	763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
HFPO-DA (GenX)	13252-13-6	Hexafluoropropylene oxide dimer acid

Results of **Garrison-DW**

Client Sample ID: **Garrison-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921001-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 10:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.780	2.02	ng/L	1	10/28/2020 21:30
NMeFOSAA	ND	U	0.716	2.02	ng/L	1	10/28/2020 21:30
PFBS	ND	U	0.469	2.02	ng/L	1	10/28/2020 21:30
PFDA	ND	U	0.459	2.02	ng/L	1	10/28/2020 21:30
PFDoA	ND	U	0.500	2.02	ng/L	1	10/28/2020 21:30
PFHpA	ND	U	0.589	2.02	ng/L	1	10/28/2020 21:30
PFHxA	ND	U	0.625	2.02	ng/L	1	10/28/2020 21:30
PFHxS	ND	U	0.511	2.02	ng/L	1	10/28/2020 21:30
PFNA	ND	U	0.425	2.02	ng/L	1	10/28/2020 21:30
PFOA	ND	U	0.500	2.02	ng/L	1	10/28/2020 21:30
PFOS	ND	U	0.489	2.02	ng/L	1	10/28/2020 21:30
PFTreA	ND	U	0.309	2.02	ng/L	1	10/28/2020 21:30
PFTriA	ND	U	0.398	2.02	ng/L	1	10/28/2020 21:30
PFuNA	ND	U	0.350	2.02	ng/L	1	10/28/2020 21:30
NaDONA	ND	U	0.438	2.02	ng/L	1	10/28/2020 21:30
9Cl-PF3ONS	ND	U	0.422	2.02	ng/L	1	10/28/2020 21:30
11Cl-PF3OUdS	ND	U	0.484	2.02	ng/L	1	10/28/2020 21:30
HFPO-DA (GenX)	ND	U	1.42	2.02	ng/L	1	10/28/2020 21:30
Surrogates							
13C2-PFDA	93.9			70.0-130	%	1	10/28/2020 21:30
13C2-PFHxA	98.3			70.0-130	%	1	10/28/2020 21:30
d5-NEtFOSAA	99.8			70.0-130	%	1	10/28/2020 21:30
13C3-HFPO-DA	120			70.0-130	%	1	10/28/2020 21:30

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 21:30**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **248 mL**
Prep Extract Vol: **1 mL**

Results of **Towner-DW**

Client Sample ID: **Towner-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921002-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 11:50
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.780	2.02	ng/L	1	10/28/2020 22:03
NMeFOSAA	ND	U	0.716	2.02	ng/L	1	10/28/2020 22:03
PFBS	ND	U	0.469	2.02	ng/L	1	10/28/2020 22:03
PFDA	ND	U	0.459	2.02	ng/L	1	10/28/2020 22:03
PFDoA	ND	U	0.500	2.02	ng/L	1	10/28/2020 22:03
PFHpA	ND	U	0.589	2.02	ng/L	1	10/28/2020 22:03
PFHxA	ND	U	0.625	2.02	ng/L	1	10/28/2020 22:03
PFHxS	ND	U	0.511	2.02	ng/L	1	10/28/2020 22:03
PFNA	ND	U	0.425	2.02	ng/L	1	10/28/2020 22:03
PFOA	ND	U	0.500	2.02	ng/L	1	10/28/2020 22:03
PFOS	ND	U	0.489	2.02	ng/L	1	10/28/2020 22:03
PFTreA	ND	U	0.309	2.02	ng/L	1	10/28/2020 22:03
PFTriA	ND	U	0.398	2.02	ng/L	1	10/28/2020 22:03
PFuNA	ND	U	0.350	2.02	ng/L	1	10/28/2020 22:03
NaDONA	ND	U	0.438	2.02	ng/L	1	10/28/2020 22:03
9Cl-PF3ONS	ND	U	0.422	2.02	ng/L	1	10/28/2020 22:03
11Cl-PF3OUdS	ND	U	0.484	2.02	ng/L	1	10/28/2020 22:03
HFPO-DA (GenX)	ND	U	1.42	2.02	ng/L	1	10/28/2020 22:03
Surrogates							
13C2-PFDA	96.8			70.0-130	%	1	10/28/2020 22:03
13C2-PFHxA	101			70.0-130	%	1	10/28/2020 22:03
d5-NEtFOSAA	91.8			70.0-130	%	1	10/28/2020 22:03
13C3-HFPO-DA	120			70.0-130	%	1	10/28/2020 22:03

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 22:03**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **248 mL**
Prep Extract Vol: **1 mL**

Results of **Rugby-DW**

Client Sample ID: **Rugby-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921003-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 13:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.803	2.07	ng/L	1	10/28/2020 22:35
NMeFOSAA	ND	U	0.737	2.07	ng/L	1	10/28/2020 22:35
PFBS	ND	U	0.482	2.07	ng/L	1	10/28/2020 22:35
PFDA	ND	U	0.472	2.07	ng/L	1	10/28/2020 22:35
PFDoA	ND	U	0.515	2.07	ng/L	1	10/28/2020 22:35
PFHpA	ND	U	0.606	2.07	ng/L	1	10/28/2020 22:35
PFHxA	ND	U	0.643	2.07	ng/L	1	10/28/2020 22:35
PFHxS	ND	U	0.526	2.07	ng/L	1	10/28/2020 22:35
PFNA	ND	U	0.438	2.07	ng/L	1	10/28/2020 22:35
PFOA	ND	U	0.515	2.07	ng/L	1	10/28/2020 22:35
PFOS	ND	U	0.503	2.07	ng/L	1	10/28/2020 22:35
PFTreA	ND	U	0.318	2.07	ng/L	1	10/28/2020 22:35
PFTriA	ND	U	0.410	2.07	ng/L	1	10/28/2020 22:35
PFuNA	ND	U	0.360	2.07	ng/L	1	10/28/2020 22:35
NaDONA	ND	U	0.450	2.07	ng/L	1	10/28/2020 22:35
9Cl-PF3ONS	ND	U	0.435	2.07	ng/L	1	10/28/2020 22:35
11Cl-PF3OUdS	ND	U	0.498	2.07	ng/L	1	10/28/2020 22:35
HFPO-DA (GenX)	ND	U	1.46	2.07	ng/L	1	10/28/2020 22:35
Surrogates							
13C2-PFDA	90.4			70.0-130	%	1	10/28/2020 22:35
13C2-PFHxA	98.9			70.0-130	%	1	10/28/2020 22:35
d5-NEtFOSAA	95.5			70.0-130	%	1	10/28/2020 22:35
13C3-HFPO-DA	129			70.0-130	%	1	10/28/2020 22:35

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 22:35**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **241 mL**
Prep Extract Vol: **1 mL**

Results of **All Seasons IV**

Client Sample ID: **All Seasons IV**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921004-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 15:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.771	1.99	ng/L	1	10/28/2020 22:51
NMeFOSAA	ND	U	0.707	1.99	ng/L	1	10/28/2020 22:51
PFBS	ND	U	0.463	1.99	ng/L	1	10/28/2020 22:51
PFDA	ND	U	0.453	1.99	ng/L	1	10/28/2020 22:51
PFDoA	ND	U	0.494	1.99	ng/L	1	10/28/2020 22:51
PFHpA	ND	U	0.582	1.99	ng/L	1	10/28/2020 22:51
PFHxA	ND	U	0.618	1.99	ng/L	1	10/28/2020 22:51
PFHxS	ND	U	0.505	1.99	ng/L	1	10/28/2020 22:51
PFNA	ND	U	0.420	1.99	ng/L	1	10/28/2020 22:51
PFOA	ND	U	0.494	1.99	ng/L	1	10/28/2020 22:51
PFOS	ND	U	0.483	1.99	ng/L	1	10/28/2020 22:51
PFTreA	ND	U	0.306	1.99	ng/L	1	10/28/2020 22:51
PFTriA	ND	U	0.393	1.99	ng/L	1	10/28/2020 22:51
PFuNA	ND	U	0.346	1.99	ng/L	1	10/28/2020 22:51
NaDONA	ND	U	0.432	1.99	ng/L	1	10/28/2020 22:51
9Cl-PF3ONS	ND	U	0.417	1.99	ng/L	1	10/28/2020 22:51
11Cl-PF3OUdS	ND	U	0.478	1.99	ng/L	1	10/28/2020 22:51
HFPO-DA (GenX)	ND	U	1.40	1.99	ng/L	1	10/28/2020 22:51
Surrogates							
13C2-PFDA	91.2			70.0-130	%	1	10/28/2020 22:51
13C2-PFHxA	97.6			70.0-130	%	1	10/28/2020 22:51
d5-NEtFOSAA	89.1			70.0-130	%	1	10/28/2020 22:51
13C3-HFPO-DA	117			70.0-130	%	1	10/28/2020 22:51

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 22:51**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **251 mL**
Prep Extract Vol: **1 mL**

Results of **Yellow-DW-Dup**

Client Sample ID: **Yellow-DW-Dup**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921005-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 15:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.774	2.00	ng/L	1	10/28/2020 23:08
NMeFOSAA	ND	U	0.710	2.00	ng/L	1	10/28/2020 23:08
PFBS	ND	U	0.465	2.00	ng/L	1	10/28/2020 23:08
PFDA	ND	U	0.455	2.00	ng/L	1	10/28/2020 23:08
PFDoA	ND	U	0.496	2.00	ng/L	1	10/28/2020 23:08
PFHpA	ND	U	0.584	2.00	ng/L	1	10/28/2020 23:08
PFHxA	ND	U	0.620	2.00	ng/L	1	10/28/2020 23:08
PFHxS	ND	U	0.507	2.00	ng/L	1	10/28/2020 23:08
PFNA	ND	U	0.422	2.00	ng/L	1	10/28/2020 23:08
PFOA	ND	U	0.496	2.00	ng/L	1	10/28/2020 23:08
PFOS	ND	U	0.485	2.00	ng/L	1	10/28/2020 23:08
PFTreA	ND	U	0.307	2.00	ng/L	1	10/28/2020 23:08
PFTriA	ND	U	0.395	2.00	ng/L	1	10/28/2020 23:08
PFuNA	ND	U	0.347	2.00	ng/L	1	10/28/2020 23:08
NaDONA	ND	U	0.434	2.00	ng/L	1	10/28/2020 23:08
9Cl-PF3ONS	ND	U	0.419	2.00	ng/L	1	10/28/2020 23:08
11Cl-PF3OUdS	ND	U	0.480	2.00	ng/L	1	10/28/2020 23:08
HFPO-DA (GenX)	ND	U	1.41	2.00	ng/L	1	10/28/2020 23:08
Surrogates							
13C2-PFDA	97.3			70.0-130	%	1	10/28/2020 23:08
13C2-PFHxA	104			70.0-130	%	1	10/28/2020 23:08
d5-NEtFOSAA	101			70.0-130	%	1	10/28/2020 23:08
13C3-HFPO-DA	132*			70.0-130	%	1	10/28/2020 23:08

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 23:08**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **250 mL**
Prep Extract Vol: **1 mL**

Results of **Warwick-DW**

Client Sample ID: **Warwick-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921006-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 10:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.750	1.94	ng/L	1	10/30/2020 15:16
NMeFOSAA	ND	U	0.688	1.94	ng/L	1	10/30/2020 15:16
PFBS	ND	U	0.451	1.94	ng/L	1	10/30/2020 15:16
PFDA	ND	U	0.441	1.94	ng/L	1	10/30/2020 15:16
PFDoA	ND	U	0.481	1.94	ng/L	1	10/30/2020 15:16
PFHpA	ND	U	0.566	1.94	ng/L	1	10/30/2020 15:16
PFHxA	ND	U	0.601	1.94	ng/L	1	10/30/2020 15:16
PFHxS	ND	U	0.491	1.94	ng/L	1	10/30/2020 15:16
PFNA	ND	U	0.409	1.94	ng/L	1	10/30/2020 15:16
PFOA	ND	U	0.481	1.94	ng/L	1	10/30/2020 15:16
PFOS	ND	U	0.470	1.94	ng/L	1	10/30/2020 15:16
PFTreA	ND	U	0.297	1.94	ng/L	1	10/30/2020 15:16
PFTriA	ND	U	0.383	1.94	ng/L	1	10/30/2020 15:16
PFuNA	ND	U	0.336	1.94	ng/L	1	10/30/2020 15:16
NaDONA	ND	U	0.421	1.94	ng/L	1	10/30/2020 15:16
9Cl-PF3ONS	ND	U	0.406	1.94	ng/L	1	10/30/2020 15:16
11Cl-PF3OUdS	ND	U	0.465	1.94	ng/L	1	10/30/2020 15:16
HFPO-DA (GenX)	ND	U	1.36	1.94	ng/L	1	10/30/2020 15:16
Surrogates							
13C2-PFDA	102			70.0-130	%	1	10/30/2020 15:16
13C2-PFHxA	107			70.0-130	%	1	10/30/2020 15:16
d5-NEtFOSAA	93.9			70.0-130	%	1	10/30/2020 15:16
13C3-HFPO-DA	70.6			70.0-130	%	1	10/30/2020 15:16

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 15:16**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **258 mL**
Prep Extract Vol: **1 mL**

Results of **Central Plains-DW**

Client Sample ID: **Central Plains-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921007-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 12:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.774	2.00	ng/L	1	10/30/2020 15:49
NMeFOSAA	ND	U	0.710	2.00	ng/L	1	10/30/2020 15:49
PFBS	ND	U	0.465	2.00	ng/L	1	10/30/2020 15:49
PFDA	ND	U	0.455	2.00	ng/L	1	10/30/2020 15:49
PFDoA	ND	U	0.496	2.00	ng/L	1	10/30/2020 15:49
PFHpA	ND	U	0.584	2.00	ng/L	1	10/30/2020 15:49
PFHxA	ND	U	0.620	2.00	ng/L	1	10/30/2020 15:49
PFHxS	ND	U	0.507	2.00	ng/L	1	10/30/2020 15:49
PFNA	ND	U	0.422	2.00	ng/L	1	10/30/2020 15:49
PFOA	ND	U	0.496	2.00	ng/L	1	10/30/2020 15:49
PFOS	ND	U	0.485	2.00	ng/L	1	10/30/2020 15:49
PFTreA	ND	U	0.307	2.00	ng/L	1	10/30/2020 15:49
PFTriA	ND	U	0.395	2.00	ng/L	1	10/30/2020 15:49
PFuNA	ND	U	0.347	2.00	ng/L	1	10/30/2020 15:49
NaDONA	ND	U	0.434	2.00	ng/L	1	10/30/2020 15:49
9Cl-PF3ONS	ND	U	0.419	2.00	ng/L	1	10/30/2020 15:49
11Cl-PF3OUdS	ND	U	0.480	2.00	ng/L	1	10/30/2020 15:49
HFPO-DA (GenX)	ND	U	1.41	2.00	ng/L	1	10/30/2020 15:49
Surrogates							
13C2-PFDA	108			70.0-130	%	1	10/30/2020 15:49
13C2-PFHxA	110			70.0-130	%	1	10/30/2020 15:49
d5-NEtFOSAA	99.3			70.0-130	%	1	10/30/2020 15:49
13C3-HFPO-DA	82.9			70.0-130	%	1	10/30/2020 15:49

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 15:49**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **250 mL**
Prep Extract Vol: **1 mL**

Results of **Robinson-DW**

Client Sample ID: **Robinson-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921008-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 09:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.727	1.88	ng/L	1	11/4/2020 17:04
NMeFOSAA	ND	U	0.667	1.88	ng/L	1	11/4/2020 17:04
PFBS	ND	U	0.437	1.88	ng/L	1	11/4/2020 17:04
PFDA	ND	U	0.428	1.88	ng/L	1	11/4/2020 17:04
PFDoA	ND	U	0.466	1.88	ng/L	1	11/4/2020 17:04
PFHpA	ND	U	0.549	1.88	ng/L	1	11/4/2020 17:04
PFHxA	ND	U	0.583	1.88	ng/L	1	11/4/2020 17:04
PFHxS	ND	U	0.477	1.88	ng/L	1	11/4/2020 17:04
PFNA	ND	U	0.397	1.88	ng/L	1	11/4/2020 17:04
PFOA	ND	U	0.466	1.88	ng/L	1	11/4/2020 17:04
PFOS	ND	U	0.456	1.88	ng/L	1	11/4/2020 17:04
PFTreA	ND	U	0.289	1.88	ng/L	1	11/4/2020 17:04
PFTriA	ND	U	0.371	1.88	ng/L	1	11/4/2020 17:04
PFuNA	ND	U	0.326	1.88	ng/L	1	11/4/2020 17:04
NaDONA	ND	U	0.408	1.88	ng/L	1	11/4/2020 17:04
9Cl-PF3ONS	ND	U	0.394	1.88	ng/L	1	11/4/2020 17:04
11Cl-PF3OUdS	ND	U	0.451	1.88	ng/L	1	11/4/2020 17:04
HFPO-DA (GenX)	ND	U	1.32	1.88	ng/L	1	11/4/2020 17:04
Surrogates							
13C2-PFDA	76.7			70.0-130	%	1	11/4/2020 17:04
13C2-PFHxA	78.5			70.0-130	%	1	11/4/2020 17:04
d5-NEtFOSAA	72.6			70.0-130	%	1	11/4/2020 17:04
13C3-HFPO-DA	72.2			70.0-130	%	1	11/4/2020 17:04

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 17:04**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **266 mL**
Prep Extract Vol: **1 mL**

Results of **Stutsman Rural-DW**

Client Sample ID: **Stutsman Rural-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921009-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 14:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.780	2.02	ng/L	1	10/30/2020 16:22
NMeFOSAA	ND	U	0.716	2.02	ng/L	1	10/30/2020 16:22
PFBS	ND	U	0.469	2.02	ng/L	1	10/30/2020 16:22
PFDA	ND	U	0.459	2.02	ng/L	1	10/30/2020 16:22
PFDoA	ND	U	0.500	2.02	ng/L	1	10/30/2020 16:22
PFHpA	ND	U	0.589	2.02	ng/L	1	10/30/2020 16:22
PFHxA	ND	U	0.625	2.02	ng/L	1	10/30/2020 16:22
PFHxS	ND	U	0.511	2.02	ng/L	1	10/30/2020 16:22
PFNA	ND	U	0.425	2.02	ng/L	1	10/30/2020 16:22
PFOA	ND	U	0.500	2.02	ng/L	1	10/30/2020 16:22
PFOS	ND	U	0.489	2.02	ng/L	1	10/30/2020 16:22
PFTreA	ND	U	0.309	2.02	ng/L	1	10/30/2020 16:22
PFTriA	ND	U	0.398	2.02	ng/L	1	10/30/2020 16:22
PFuNA	ND	U	0.350	2.02	ng/L	1	10/30/2020 16:22
NaDONA	ND	U	0.438	2.02	ng/L	1	10/30/2020 16:22
9Cl-PF3ONS	ND	U	0.422	2.02	ng/L	1	10/30/2020 16:22
11Cl-PF3OUdS	ND	U	0.484	2.02	ng/L	1	10/30/2020 16:22
HFPO-DA (GenX)	ND	U	1.42	2.02	ng/L	1	10/30/2020 16:22
Surrogates							
13C2-PFDA	102			70.0-130	%	1	10/30/2020 16:22
13C2-PFHxA	108			70.0-130	%	1	10/30/2020 16:22
d5-NEtFOSAA	98.5			70.0-130	%	1	10/30/2020 16:22
13C3-HFPO-DA	101			70.0-130	%	1	10/30/2020 16:22

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 16:22**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **248 mL**
Prep Extract Vol: **1 mL**

Results of **Bottineau-DW**

Client Sample ID: **Bottineau-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921010-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 07:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.810	2.09	ng/L	1	10/30/2020 16:38
NMeFOSAA	ND	U	0.743	2.09	ng/L	1	10/30/2020 16:38
PFBS	ND	U	0.486	2.09	ng/L	1	10/30/2020 16:38
PFDA	ND	U	0.476	2.09	ng/L	1	10/30/2020 16:38
PFDoA	ND	U	0.519	2.09	ng/L	1	10/30/2020 16:38
PFHpA	ND	U	0.611	2.09	ng/L	1	10/30/2020 16:38
PFHxA	ND	U	0.649	2.09	ng/L	1	10/30/2020 16:38
PFHxS	ND	U	0.530	2.09	ng/L	1	10/30/2020 16:38
PFNA	ND	U	0.441	2.09	ng/L	1	10/30/2020 16:38
PFOA	ND	U	0.519	2.09	ng/L	1	10/30/2020 16:38
PFOS	ND	U	0.507	2.09	ng/L	1	10/30/2020 16:38
PFTreA	ND	U	0.321	2.09	ng/L	1	10/30/2020 16:38
PFTriA	ND	U	0.413	2.09	ng/L	1	10/30/2020 16:38
PFuNA	ND	U	0.363	2.09	ng/L	1	10/30/2020 16:38
NaDONA	ND	U	0.454	2.09	ng/L	1	10/30/2020 16:38
9Cl-PF3ONS	ND	U	0.438	2.09	ng/L	1	10/30/2020 16:38
11Cl-PF3OUdS	ND	U	0.502	2.09	ng/L	1	10/30/2020 16:38
HFPO-DA (GenX)	ND	U	1.47	2.09	ng/L	1	10/30/2020 16:38
Surrogates							
13C2-PFDA	100			70.0-130	%	1	10/30/2020 16:38
13C2-PFHxA	106			70.0-130	%	1	10/30/2020 16:38
d5-NEtFOSAA	90.8			70.0-130	%	1	10/30/2020 16:38
13C3-HFPO-DA	97.3			70.0-130	%	1	10/30/2020 16:38

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 16:38**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **239 mL**
Prep Extract Vol: **1 mL**

Results of **McClusky-DW**

Client Sample ID: **McClusky-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921011-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 09:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.739	1.91	ng/L	1	10/28/2020 23:24
NMeFOSAA	ND	U	0.677	1.91	ng/L	1	10/28/2020 23:24
PFBS	ND	U	0.444	1.91	ng/L	1	10/28/2020 23:24
PFDA	ND	U	0.434	1.91	ng/L	1	10/28/2020 23:24
PFDoA	ND	U	0.473	1.91	ng/L	1	10/28/2020 23:24
PFHpA	ND	U	0.557	1.91	ng/L	1	10/28/2020 23:24
PFHxA	ND	U	0.592	1.91	ng/L	1	10/28/2020 23:24
PFHxS	ND	U	0.484	1.91	ng/L	1	10/28/2020 23:24
PFNA	ND	U	0.403	1.91	ng/L	1	10/28/2020 23:24
PFOA	ND	U	0.473	1.91	ng/L	1	10/28/2020 23:24
PFOS	ND	U	0.463	1.91	ng/L	1	10/28/2020 23:24
PFTreA	ND	U	0.293	1.91	ng/L	1	10/28/2020 23:24
PFTriA	ND	U	0.377	1.91	ng/L	1	10/28/2020 23:24
PFuNA	ND	U	0.331	1.91	ng/L	1	10/28/2020 23:24
NaDONA	ND	U	0.414	1.91	ng/L	1	10/28/2020 23:24
9Cl-PF3ONS	ND	U	0.400	1.91	ng/L	1	10/28/2020 23:24
11Cl-PF3OUdS	ND	U	0.458	1.91	ng/L	1	10/28/2020 23:24
HFPO-DA (GenX)	ND	U	1.34	1.91	ng/L	1	10/28/2020 23:24
Surrogates							
13C2-PFDA	98.4			70.0-130	%	1	10/28/2020 23:24
13C2-PFHxA	102			70.0-130	%	1	10/28/2020 23:24
d5-NEtFOSAA	95.0			70.0-130	%	1	10/28/2020 23:24
13C3-HFPO-DA	127			70.0-130	%	1	10/28/2020 23:24

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 23:24**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **262 mL**
Prep Extract Vol: **1 mL**

Results of **SCRWD Emmons-DW**

Client Sample ID: **SCRWD Emmons-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921012-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 16:21
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.787	2.03	ng/L	1	10/28/2020 23:56
NMeFOSAA	ND	U	0.722	2.03	ng/L	1	10/28/2020 23:56
PFBS	ND	U	0.473	2.03	ng/L	1	10/28/2020 23:56
PFDA	ND	U	0.462	2.03	ng/L	1	10/28/2020 23:56
PFDoA	ND	U	0.504	2.03	ng/L	1	10/28/2020 23:56
PFHpA	ND	U	0.593	2.03	ng/L	1	10/28/2020 23:56
PFHxA	ND	U	0.630	2.03	ng/L	1	10/28/2020 23:56
PFHxS	ND	U	0.515	2.03	ng/L	1	10/28/2020 23:56
PFNA	ND	U	0.429	2.03	ng/L	1	10/28/2020 23:56
PFOA	ND	U	0.504	2.03	ng/L	1	10/28/2020 23:56
PFOS	ND	U	0.493	2.03	ng/L	1	10/28/2020 23:56
PFTreA	ND	U	0.312	2.03	ng/L	1	10/28/2020 23:56
PFTriA	ND	U	0.401	2.03	ng/L	1	10/28/2020 23:56
PFuNA	ND	U	0.353	2.03	ng/L	1	10/28/2020 23:56
NaDONA	ND	U	0.441	2.03	ng/L	1	10/28/2020 23:56
9Cl-PF3ONS	ND	U	0.426	2.03	ng/L	1	10/28/2020 23:56
11Cl-PF3OUdS	ND	U	0.488	2.03	ng/L	1	10/28/2020 23:56
HFPO-DA (GenX)	ND	U	1.43	2.03	ng/L	1	10/28/2020 23:56
Surrogates							
13C2-PFDA	93.0			70.0-130	%	1	10/28/2020 23:56
13C2-PFHxA	98.3			70.0-130	%	1	10/28/2020 23:56
d5-NEtFOSAA	93.8			70.0-130	%	1	10/28/2020 23:56
13C3-HFPO-DA	131*			70.0-130	%	1	10/28/2020 23:56

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 23:56**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **246 mL**
Prep Extract Vol: **1 mL**

Results of **SCRWD Emmons SOURCE-DW**

Client Sample ID: **SCRWD Emmons SOURCE-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921013-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 16:21
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.793	2.05	ng/L	1	10/29/2020 0:13
NMeFOSAA	ND	U	0.727	2.05	ng/L	1	10/29/2020 0:13
PFBS	ND	U	0.476	2.05	ng/L	1	10/29/2020 0:13
PFDA	ND	U	0.466	2.05	ng/L	1	10/29/2020 0:13
PFDoA	ND	U	0.508	2.05	ng/L	1	10/29/2020 0:13
PFHpA	ND	U	0.598	2.05	ng/L	1	10/29/2020 0:13
PFHxA	ND	U	0.635	2.05	ng/L	1	10/29/2020 0:13
PFHxS	ND	U	0.519	2.05	ng/L	1	10/29/2020 0:13
PFNA	ND	U	0.432	2.05	ng/L	1	10/29/2020 0:13
PFOA	ND	U	0.508	2.05	ng/L	1	10/29/2020 0:13
PFOS	ND	U	0.497	2.05	ng/L	1	10/29/2020 0:13
PFTreA	ND	U	0.315	2.05	ng/L	1	10/29/2020 0:13
PFTriA	ND	U	0.405	2.05	ng/L	1	10/29/2020 0:13
PFuNA	ND	U	0.356	2.05	ng/L	1	10/29/2020 0:13
NaDONA	ND	U	0.445	2.05	ng/L	1	10/29/2020 0:13
9Cl-PF3ONS	ND	U	0.429	2.05	ng/L	1	10/29/2020 0:13
11Cl-PF3OUdS	ND	U	0.492	2.05	ng/L	1	10/29/2020 0:13
HFPO-DA (GenX)	ND	U	1.44	2.05	ng/L	1	10/29/2020 0:13
Surrogates							
13C2-PFDA	99.4			70.0-130	%	1	10/29/2020 0:13
13C2-PFHxA	79.3			70.0-130	%	1	10/29/2020 0:13
d5-NEtFOSAA	100			70.0-130	%	1	10/29/2020 0:13
13C3-HFPO-DA	89.1			70.0-130	%	1	10/29/2020 0:13

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 00:13**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **244 mL**
Prep Extract Vol: **1 mL**

Results of **Purple DUP-DW**

Client Sample ID: **Purple DUP-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921014-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 14:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.759	1.96	ng/L	1	10/29/2020 0:29
NMeFOSAA	ND	U	0.696	1.96	ng/L	1	10/29/2020 0:29
PFBS	ND	U	0.456	1.96	ng/L	1	10/29/2020 0:29
PFDA	ND	U	0.446	1.96	ng/L	1	10/29/2020 0:29
PFDoA	ND	U	0.486	1.96	ng/L	1	10/29/2020 0:29
PFHpA	ND	U	0.573	1.96	ng/L	1	10/29/2020 0:29
PFHxA	ND	U	0.608	1.96	ng/L	1	10/29/2020 0:29
PFHxS	ND	U	0.497	1.96	ng/L	1	10/29/2020 0:29
PFNA	ND	U	0.414	1.96	ng/L	1	10/29/2020 0:29
PFOA	ND	U	0.486	1.96	ng/L	1	10/29/2020 0:29
PFOS	ND	U	0.475	1.96	ng/L	1	10/29/2020 0:29
PFTreA	ND	U	0.301	1.96	ng/L	1	10/29/2020 0:29
PFTriA	ND	U	0.387	1.96	ng/L	1	10/29/2020 0:29
PFuNA	ND	U	0.340	1.96	ng/L	1	10/29/2020 0:29
NaDONA	ND	U	0.425	1.96	ng/L	1	10/29/2020 0:29
9Cl-PF3ONS	ND	U	0.411	1.96	ng/L	1	10/29/2020 0:29
11Cl-PF3OUdS	ND	U	0.471	1.96	ng/L	1	10/29/2020 0:29
HFPO-DA (GenX)	ND	U	1.38	1.96	ng/L	1	10/29/2020 0:29
Surrogates							
13C2-PFDA	111			70.0-130	%	1	10/29/2020 0:29
13C2-PFHxA	110			70.0-130	%	1	10/29/2020 0:29
d5-NEtFOSAA	111			70.0-130	%	1	10/29/2020 0:29
13C3-HFPO-DA	144*			70.0-130	%	1	10/29/2020 0:29

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 00:29**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **255 mL**
Prep Extract Vol: **1 mL**

Results of **Napoleon-DW**

Client Sample ID: **Napoleon-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921015-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 14:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.744	1.92	ng/L	1	10/29/2020 0:46
NMeFOSAA	ND	U	0.683	1.92	ng/L	1	10/29/2020 0:46
PFBS	ND	U	0.447	1.92	ng/L	1	10/29/2020 0:46
PFDA	ND	U	0.438	1.92	ng/L	1	10/29/2020 0:46
PFDoA	ND	U	0.477	1.92	ng/L	1	10/29/2020 0:46
PFHpA	ND	U	0.562	1.92	ng/L	1	10/29/2020 0:46
PFHxA	ND	U	0.596	1.92	ng/L	1	10/29/2020 0:46
PFHxS	ND	U	0.488	1.92	ng/L	1	10/29/2020 0:46
PFNA	ND	U	0.406	1.92	ng/L	1	10/29/2020 0:46
PFOA	ND	U	0.477	1.92	ng/L	1	10/29/2020 0:46
PFOS	ND	U	0.466	1.92	ng/L	1	10/29/2020 0:46
PFTreA	ND	U	0.295	1.92	ng/L	1	10/29/2020 0:46
PFTriA	ND	U	0.380	1.92	ng/L	1	10/29/2020 0:46
PFuNA	ND	U	0.334	1.92	ng/L	1	10/29/2020 0:46
NaDONA	ND	U	0.417	1.92	ng/L	1	10/29/2020 0:46
9Cl-PF3ONS	ND	U	0.403	1.92	ng/L	1	10/29/2020 0:46
11Cl-PF3OUdS	ND	U	0.462	1.92	ng/L	1	10/29/2020 0:46
HFPO-DA (GenX)	ND	U	1.35	1.92	ng/L	1	10/29/2020 0:46
Surrogates							
13C2-PFDA	121			70.0-130	%	1	10/29/2020 0:46
13C2-PFHxA	128			70.0-130	%	1	10/29/2020 0:46
d5-NEtFOSAA	124			70.0-130	%	1	10/29/2020 0:46
13C3-HFPO-DA	163*			70.0-130	%	1	10/29/2020 0:46

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 00:46**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **260 mL**
Prep Extract Vol: **1 mL**

Results of **Wishek-DW**

Client Sample ID: **Wishek-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921016-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 13:56
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.722	1.87	ng/L	1	10/29/2020 1:02
NMeFOSAA	ND	U	0.662	1.87	ng/L	1	10/29/2020 1:02
PFBS	ND	U	0.434	1.87	ng/L	1	10/29/2020 1:02
PFDA	ND	U	0.424	1.87	ng/L	1	10/29/2020 1:02
PFDoA	ND	U	0.463	1.87	ng/L	1	10/29/2020 1:02
PFHpA	ND	U	0.545	1.87	ng/L	1	10/29/2020 1:02
PFHxA	ND	U	0.578	1.87	ng/L	1	10/29/2020 1:02
PFHxS	ND	U	0.473	1.87	ng/L	1	10/29/2020 1:02
PFNA	ND	U	0.394	1.87	ng/L	1	10/29/2020 1:02
PFOA	ND	U	0.463	1.87	ng/L	1	10/29/2020 1:02
PFOS	ND	U	0.452	1.87	ng/L	1	10/29/2020 1:02
PFTreA	ND	U	0.286	1.87	ng/L	1	10/29/2020 1:02
PFTriA	ND	U	0.368	1.87	ng/L	1	10/29/2020 1:02
PFuNA	ND	U	0.324	1.87	ng/L	1	10/29/2020 1:02
NaDONA	ND	U	0.405	1.87	ng/L	1	10/29/2020 1:02
9Cl-PF3ONS	ND	U	0.391	1.87	ng/L	1	10/29/2020 1:02
11Cl-PF3OUdS	ND	U	0.448	1.87	ng/L	1	10/29/2020 1:02
HFPO-DA (GenX)	ND	U	1.31	1.87	ng/L	1	10/29/2020 1:02
Surrogates							
13C2-PFDA	112			70.0-130	%	1	10/29/2020 1:02
13C2-PFHxA	121			70.0-130	%	1	10/29/2020 1:02
d5-NEtFOSAA	114			70.0-130	%	1	10/29/2020 1:02
13C3-HFPO-DA	151*			70.0-130	%	1	10/29/2020 1:02

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 01:02**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **268 mL**
Prep Extract Vol: **1 mL**

Results of **Oaks Golf Club-DW**

Client Sample ID: **Oaks Golf Club-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921017-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 11:18
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.864	2.23	ng/L	1	10/29/2020 1:18
NMeFOSAA	ND	U	0.792	2.23	ng/L	1	10/29/2020 1:18
PFBS	ND	U	0.519	2.23	ng/L	1	10/29/2020 1:18
PFDA	ND	U	0.508	2.23	ng/L	1	10/29/2020 1:18
PFDoA	ND	U	0.554	2.23	ng/L	1	10/29/2020 1:18
PFHpA	ND	U	0.652	2.23	ng/L	1	10/29/2020 1:18
PFHxA	ND	U	0.692	2.23	ng/L	1	10/29/2020 1:18
PFHxS	**2.14**	J	0.566	2.23	ng/L	1	10/29/2020 1:18
PFNA	ND	U	0.471	2.23	ng/L	1	10/29/2020 1:18
PFOA	ND	U	0.554	2.23	ng/L	1	10/29/2020 1:18
PFOS	ND	U	0.541	2.23	ng/L	1	10/29/2020 1:18
PFTreA	ND	U	0.343	2.23	ng/L	1	10/29/2020 1:18
PFTriA	ND	U	0.441	2.23	ng/L	1	10/29/2020 1:18
PFuNA	ND	U	0.387	2.23	ng/L	1	10/29/2020 1:18
NaDONA	ND	U	0.484	2.23	ng/L	1	10/29/2020 1:18
9Cl-PF3ONS	ND	U	0.468	2.23	ng/L	1	10/29/2020 1:18
11Cl-PF3OUdS	ND	U	0.536	2.23	ng/L	1	10/29/2020 1:18
HFPO-DA (GenX)	ND	U	1.57	2.23	ng/L	1	10/29/2020 1:18
Surrogates							
13C2-PFDA	92.4			70.0-130	%	1	10/29/2020 1:18
13C2-PFHxA	96.8			70.0-130	%	1	10/29/2020 1:18
d5-NEtFOSAA	95.7			70.0-130	%	1	10/29/2020 1:18
13C3-HFPO-DA	126			70.0-130	%	1	10/29/2020 1:18

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 01:18**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **224 mL**
Prep Extract Vol: **1 mL**

Results of **Willowbank Colony-DW**

Client Sample ID: **Willowbank Colony-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921018-A
Lab Project ID: 32001921

Collection Date: 10/12/2020 10:13
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.793	2.05	ng/L	1	10/29/2020 14:48
NMeFOSAA	ND	U	0.727	2.05	ng/L	1	10/29/2020 14:48
PFBS	ND	U	0.476	2.05	ng/L	1	10/29/2020 14:48
PFDA	ND	U	0.466	2.05	ng/L	1	10/29/2020 14:48
PFDoA	ND	U	0.508	2.05	ng/L	1	10/29/2020 14:48
PFHpA	ND	U	0.598	2.05	ng/L	1	10/29/2020 14:48
PFHxA	ND	U	0.635	2.05	ng/L	1	10/29/2020 14:48
PFHxS	ND	U	0.519	2.05	ng/L	1	10/29/2020 14:48
PFNA	ND	U	0.432	2.05	ng/L	1	10/29/2020 14:48
PFOA	ND	U	0.508	2.05	ng/L	1	10/29/2020 14:48
PFOS	ND	U	0.497	2.05	ng/L	1	10/29/2020 14:48
PFTreA	ND	U	0.315	2.05	ng/L	1	10/29/2020 14:48
PFTriA	ND	U	0.405	2.05	ng/L	1	10/29/2020 14:48
PFuNA	ND	U	0.356	2.05	ng/L	1	10/29/2020 14:48
NaDONA	ND	U	0.445	2.05	ng/L	1	10/29/2020 14:48
9Cl-PF3ONS	**8.33**		0.429	2.05	ng/L	1	10/29/2020 14:48
11Cl-PF3OUdS	ND	U	0.492	2.05	ng/L	1	10/29/2020 14:48
HFPO-DA (GenX)	ND	U	1.44	2.05	ng/L	1	10/29/2020 14:48
Surrogates							
13C2-PFDA	73.5			70.0-130	%	1	10/29/2020 14:48
13C2-PFHxA	81.3			70.0-130	%	1	10/29/2020 14:48
d5-NEtFOSAA	71.0			70.0-130	%	1	10/29/2020 14:48
13C3-HFPO-DA	85.0			70.0-130	%	1	10/29/2020 14:48

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 14:48**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **244 mL**
Prep Extract Vol: **1 mL**

Results of **Mandan-DW**

Client Sample ID: **Mandan-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921019-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 08:24
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.830	2.15	ng/L	1	10/29/2020 1:51
NMeFOSAA	ND	U	0.762	2.15	ng/L	1	10/29/2020 1:51
PFBS	ND	U	0.499	2.15	ng/L	1	10/29/2020 1:51
PFDA	ND	U	0.488	2.15	ng/L	1	10/29/2020 1:51
PFDoA	ND	U	0.532	2.15	ng/L	1	10/29/2020 1:51
PFHpA	ND	U	0.627	2.15	ng/L	1	10/29/2020 1:51
PFHxA	ND	U	0.665	2.15	ng/L	1	10/29/2020 1:51
PFHxS	ND	U	0.544	2.15	ng/L	1	10/29/2020 1:51
PFNA	ND	U	0.453	2.15	ng/L	1	10/29/2020 1:51
PFOA	ND	U	0.532	2.15	ng/L	1	10/29/2020 1:51
PFOS	ND	U	0.520	2.15	ng/L	1	10/29/2020 1:51
PFTreA	ND	U	0.329	2.15	ng/L	1	10/29/2020 1:51
PFTriA	ND	U	0.424	2.15	ng/L	1	10/29/2020 1:51
PFuNA	ND	U	0.372	2.15	ng/L	1	10/29/2020 1:51
NaDONA	ND	U	0.466	2.15	ng/L	1	10/29/2020 1:51
9Cl-PF3ONS	ND	U	0.450	2.15	ng/L	1	10/29/2020 1:51
11Cl-PF3OUdS	ND	U	0.515	2.15	ng/L	1	10/29/2020 1:51
HFPO-DA (GenX)	ND	U	1.51	2.15	ng/L	1	10/29/2020 1:51
Surrogates							
13C2-PFDA	108			70.0-130	%	1	10/29/2020 1:51
13C2-PFHxA	111			70.0-130	%	1	10/29/2020 1:51
d5-NEtFOSAA	116			70.0-130	%	1	10/29/2020 1:51
13C3-HFPO-DA	147*			70.0-130	%	1	10/29/2020 1:51

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 01:51**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **233 mL**
Prep Extract Vol: **1 mL**

Results of **Milton R. Young Station-DW**

Client Sample ID: **Milton R. Young Station-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921020-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 09:47
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.810	2.09	ng/L	1	10/29/2020 2:07
NMeFOSAA	ND	U	0.743	2.09	ng/L	1	10/29/2020 2:07
PFBS	ND	U	0.486	2.09	ng/L	1	10/29/2020 2:07
PFDA	ND	U	0.476	2.09	ng/L	1	10/29/2020 2:07
PFDoA	ND	U	0.519	2.09	ng/L	1	10/29/2020 2:07
PFHpA	ND	U	0.611	2.09	ng/L	1	10/29/2020 2:07
PFHxA	ND	U	0.649	2.09	ng/L	1	10/29/2020 2:07
PFHxS	ND	U	0.530	2.09	ng/L	1	10/29/2020 2:07
PFNA	ND	U	0.441	2.09	ng/L	1	10/29/2020 2:07
PFOA	ND	U	0.519	2.09	ng/L	1	10/29/2020 2:07
PFOS	ND	U	0.507	2.09	ng/L	1	10/29/2020 2:07
PFTreA	ND	U	0.321	2.09	ng/L	1	10/29/2020 2:07
PFTriA	ND	U	0.413	2.09	ng/L	1	10/29/2020 2:07
PFuNA	ND	U	0.363	2.09	ng/L	1	10/29/2020 2:07
NaDONA	ND	U	0.454	2.09	ng/L	1	10/29/2020 2:07
9Cl-PF3ONS	ND	U	0.438	2.09	ng/L	1	10/29/2020 2:07
11Cl-PF3OUdS	ND	U	0.502	2.09	ng/L	1	10/29/2020 2:07
HFPO-DA (GenX)	ND	U	1.47	2.09	ng/L	1	10/29/2020 2:07
Surrogates							
13C2-PFDA	89.4			70.0-130	%	1	10/29/2020 2:07
13C2-PFHxA	95.1			70.0-130	%	1	10/29/2020 2:07
d5-NEtFOSAA	91.2			70.0-130	%	1	10/29/2020 2:07
13C3-HFPO-DA	125			70.0-130	%	1	10/29/2020 2:07

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 02:07**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **239 mL**
Prep Extract Vol: **1 mL**

Results of **Elgin-DW**

Client Sample ID: **Elgin-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921021-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 10:53
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.756	1.95	ng/L	1	10/29/2020 2:23
NMeFOSAA	ND	U	0.693	1.95	ng/L	1	10/29/2020 2:23
PFBS	ND	U	0.454	1.95	ng/L	1	10/29/2020 2:23
PFDA	ND	U	0.444	1.95	ng/L	1	10/29/2020 2:23
PFDoA	ND	U	0.484	1.95	ng/L	1	10/29/2020 2:23
PFHpA	ND	U	0.570	1.95	ng/L	1	10/29/2020 2:23
PFHxA	ND	U	0.605	1.95	ng/L	1	10/29/2020 2:23
PFHxS	ND	U	0.495	1.95	ng/L	1	10/29/2020 2:23
PFNA	ND	U	0.412	1.95	ng/L	1	10/29/2020 2:23
PFOA	ND	U	0.484	1.95	ng/L	1	10/29/2020 2:23
PFOS	ND	U	0.474	1.95	ng/L	1	10/29/2020 2:23
PFTreA	ND	U	0.300	1.95	ng/L	1	10/29/2020 2:23
PFTriA	ND	U	0.386	1.95	ng/L	1	10/29/2020 2:23
PFuNA	ND	U	0.339	1.95	ng/L	1	10/29/2020 2:23
NaDONA	ND	U	0.424	1.95	ng/L	1	10/29/2020 2:23
9Cl-PF3ONS	ND	U	0.409	1.95	ng/L	1	10/29/2020 2:23
11Cl-PF3OUdS	ND	U	0.469	1.95	ng/L	1	10/29/2020 2:23
HFPO-DA (GenX)	ND	U	1.38	1.95	ng/L	1	10/29/2020 2:23
Surrogates							
13C2-PFDA	95.6			70.0-130	%	1	10/29/2020 2:23
13C2-PFHxA	101			70.0-130	%	1	10/29/2020 2:23
d5-NEtFOSAA	99.8			70.0-130	%	1	10/29/2020 2:23
13C3-HFPO-DA	134*			70.0-130	%	1	10/29/2020 2:23

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 02:23**

Prep Batch: **HXX2630**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/22/2020 22:03**
Prep Initial Wt./Vol.: **256 mL**
Prep Extract Vol: **1 mL**

Results of **Wing-DW**

Client Sample ID: **Wing-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921022-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:55
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.744	1.92	ng/L	1	11/4/2020 17:37
NMeFOSAA	ND	U	0.683	1.92	ng/L	1	11/4/2020 17:37
PFBS	ND	U	0.447	1.92	ng/L	1	11/4/2020 17:37
PFDA	ND	U	0.438	1.92	ng/L	1	11/4/2020 17:37
PFDoA	ND	U	0.477	1.92	ng/L	1	11/4/2020 17:37
PFHpA	ND	U	0.562	1.92	ng/L	1	11/4/2020 17:37
PFHxA	ND	U	0.596	1.92	ng/L	1	11/4/2020 17:37
PFHxS	ND	U	0.488	1.92	ng/L	1	11/4/2020 17:37
PFNA	ND	U	0.406	1.92	ng/L	1	11/4/2020 17:37
PFOA	ND	U	0.477	1.92	ng/L	1	11/4/2020 17:37
PFOS	ND	U	0.466	1.92	ng/L	1	11/4/2020 17:37
PFTreA	ND	U	0.295	1.92	ng/L	1	11/4/2020 17:37
PFTriA	ND	U	0.380	1.92	ng/L	1	11/4/2020 17:37
PFuNA	ND	U	0.334	1.92	ng/L	1	11/4/2020 17:37
NaDONA	ND	U	0.417	1.92	ng/L	1	11/4/2020 17:37
9Cl-PF3ONS	ND	U	0.403	1.92	ng/L	1	11/4/2020 17:37
11Cl-PF3OUdS	ND	U	0.462	1.92	ng/L	1	11/4/2020 17:37
HFPO-DA (GenX)	ND	U	1.35	1.92	ng/L	1	11/4/2020 17:37
Surrogates							
13C2-PFDA	89.8			70.0-130	%	1	11/4/2020 17:37
13C2-PFHxA	93.5			70.0-130	%	1	11/4/2020 17:37
d5-NEtFOSAA	81.0			70.0-130	%	1	11/4/2020 17:37
13C3-HFPO-DA	90.8			70.0-130	%	1	11/4/2020 17:37

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 17:37**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **260 mL**
Prep Extract Vol: **1 mL**

Results of **Killdeer Lodge-WW**

Client Sample ID: **Killdeer Lodge-WW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921023-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 11:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.771	1.99	ng/L	1	10/30/2020 16:54
NMeFOSAA	ND	U	0.707	1.99	ng/L	1	10/30/2020 16:54
PFBS	ND	U	0.463	1.99	ng/L	1	10/30/2020 16:54
PFDA	ND	U	0.453	1.99	ng/L	1	10/30/2020 16:54
PFDoA	ND	U	0.494	1.99	ng/L	1	10/30/2020 16:54
PFHpA	ND	U	0.582	1.99	ng/L	1	10/30/2020 16:54
PFHxA	ND	U	0.618	1.99	ng/L	1	10/30/2020 16:54
PFHxS	ND	U	0.505	1.99	ng/L	1	10/30/2020 16:54
PFNA	ND	U	0.420	1.99	ng/L	1	10/30/2020 16:54
PFOA	ND	U	0.494	1.99	ng/L	1	10/30/2020 16:54
PFOS	ND	U	0.483	1.99	ng/L	1	10/30/2020 16:54
PFTreA	ND	U	0.306	1.99	ng/L	1	10/30/2020 16:54
PFTriA	ND	U	0.393	1.99	ng/L	1	10/30/2020 16:54
PFuNA	ND	U	0.346	1.99	ng/L	1	10/30/2020 16:54
NaDONA	ND	U	0.432	1.99	ng/L	1	10/30/2020 16:54
9Cl-PF3ONS	ND	U	0.417	1.99	ng/L	1	10/30/2020 16:54
11Cl-PF3OUdS	ND	U	0.478	1.99	ng/L	1	10/30/2020 16:54
HFPO-DA (GenX)	ND	U	1.40	1.99	ng/L	1	10/30/2020 16:54
Surrogates							
13C2-PFDA	98.5			70.0-130	%	1	10/30/2020 16:54
13C2-PFHxA	103			70.0-130	%	1	10/30/2020 16:54
d5-NEtFOSAA	97.4			70.0-130	%	1	10/30/2020 16:54
13C3-HFPO-DA	101			70.0-130	%	1	10/30/2020 16:54

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 16:54**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **251 mL**
Prep Extract Vol: **1 mL**

Results of **Solen (Sioux)-DW**

Client Sample ID: **Solen (Sioux)-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921024-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.803	2.07	ng/L	1	11/4/2020 18:09
NMeFOSAA	ND	U	0.737	2.07	ng/L	1	11/4/2020 18:09
PFBS	ND	U	0.482	2.07	ng/L	1	11/4/2020 18:09
PFDA	ND	U	0.472	2.07	ng/L	1	11/4/2020 18:09
PFDoA	ND	U	0.515	2.07	ng/L	1	11/4/2020 18:09
PFHpA	ND	U	0.606	2.07	ng/L	1	11/4/2020 18:09
PFHxA	ND	U	0.643	2.07	ng/L	1	11/4/2020 18:09
PFHxS	ND	U	0.526	2.07	ng/L	1	11/4/2020 18:09
PFNA	ND	U	0.438	2.07	ng/L	1	11/4/2020 18:09
PFOA	ND	U	0.515	2.07	ng/L	1	11/4/2020 18:09
PFOS	ND	U	0.503	2.07	ng/L	1	11/4/2020 18:09
PFTreA	ND	U	0.318	2.07	ng/L	1	11/4/2020 18:09
PFTriA	ND	U	0.410	2.07	ng/L	1	11/4/2020 18:09
PFuNA	ND	U	0.360	2.07	ng/L	1	11/4/2020 18:09
NaDONA	ND	U	0.450	2.07	ng/L	1	11/4/2020 18:09
9Cl-PF3ONS	ND	U	0.435	2.07	ng/L	1	11/4/2020 18:09
11Cl-PF3OUdS	ND	U	0.498	2.07	ng/L	1	11/4/2020 18:09
HFPO-DA (GenX)	ND	U	1.46	2.07	ng/L	1	11/4/2020 18:09
Surrogates							
13C2-PFDA	70.0			70.0-130	%	1	11/4/2020 18:09
13C2-PFHxA	71.4			70.0-130	%	1	11/4/2020 18:09
d5-NEtFOSAA	67.6*			70.0-130	%	1	11/4/2020 18:09
13C3-HFPO-DA	74.6			70.0-130	%	1	11/4/2020 18:09

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 18:09**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **241 mL**
Prep Extract Vol: **1 mL**

Results of **Burning Hills Ave-WW**

Client Sample ID: **Burning Hills Ave-WW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921025-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 09:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/30/2020 17:11
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/30/2020 17:11
PFBS	ND	U	0.478	2.06	ng/L	1	10/30/2020 17:11
PFDA	ND	U	0.468	2.06	ng/L	1	10/30/2020 17:11
PFDoA	ND	U	0.510	2.06	ng/L	1	10/30/2020 17:11
PFHpA	ND	U	0.601	2.06	ng/L	1	10/30/2020 17:11
PFHxA	ND	U	0.638	2.06	ng/L	1	10/30/2020 17:11
PFHxS	ND	U	0.522	2.06	ng/L	1	10/30/2020 17:11
PFNA	ND	U	0.434	2.06	ng/L	1	10/30/2020 17:11
PFOA	ND	U	0.510	2.06	ng/L	1	10/30/2020 17:11
PFOS	ND	U	0.499	2.06	ng/L	1	10/30/2020 17:11
PFTreA	ND	U	0.316	2.06	ng/L	1	10/30/2020 17:11
PFTriA	ND	U	0.406	2.06	ng/L	1	10/30/2020 17:11
PFuNA	ND	U	0.357	2.06	ng/L	1	10/30/2020 17:11
NaDONA	ND	U	0.447	2.06	ng/L	1	10/30/2020 17:11
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/30/2020 17:11
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/30/2020 17:11
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/30/2020 17:11
Surrogates							
13C2-PFDA	113			70.0-130	%	1	10/30/2020 17:11
13C2-PFHxA	115			70.0-130	%	1	10/30/2020 17:11
d5-NEtFOSAA	108			70.0-130	%	1	10/30/2020 17:11
13C3-HFPO-DA	113			70.0-130	%	1	10/30/2020 17:11

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 17:11**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Beach-DW**

Client Sample ID: **Beach-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921026-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 08:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.780	2.02	ng/L	1	10/30/2020 18:16
NMeFOSAA	ND	U	0.716	2.02	ng/L	1	10/30/2020 18:16
PFBS	ND	U	0.469	2.02	ng/L	1	10/30/2020 18:16
PFDA	ND	U	0.459	2.02	ng/L	1	10/30/2020 18:16
PFDoA	ND	U	0.500	2.02	ng/L	1	10/30/2020 18:16
PFHpA	ND	U	0.589	2.02	ng/L	1	10/30/2020 18:16
PFHxA	ND	U	0.625	2.02	ng/L	1	10/30/2020 18:16
PFHxS	ND	U	0.511	2.02	ng/L	1	10/30/2020 18:16
PFNA	ND	U	0.425	2.02	ng/L	1	10/30/2020 18:16
PFOA	ND	U	0.500	2.02	ng/L	1	10/30/2020 18:16
PFOS	ND	U	0.489	2.02	ng/L	1	10/30/2020 18:16
PFTreA	ND	U	0.309	2.02	ng/L	1	10/30/2020 18:16
PFTriA	ND	U	0.398	2.02	ng/L	1	10/30/2020 18:16
PFuNA	ND	U	0.350	2.02	ng/L	1	10/30/2020 18:16
NaDONA	ND	U	0.438	2.02	ng/L	1	10/30/2020 18:16
9Cl-PF3ONS	ND	U	0.422	2.02	ng/L	1	10/30/2020 18:16
11Cl-PF3OUdS	ND	U	0.484	2.02	ng/L	1	10/30/2020 18:16
HFPO-DA (GenX)	ND	U	1.42	2.02	ng/L	1	10/30/2020 18:16
Surrogates							
13C2-PFDA	92.6			70.0-130	%	1	10/30/2020 18:16
13C2-PFHxA	98.9			70.0-130	%	1	10/30/2020 18:16
d5-NEtFOSAA	92.3			70.0-130	%	1	10/30/2020 18:16
13C3-HFPO-DA	94.4			70.0-130	%	1	10/30/2020 18:16

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 18:16**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **248 mL**
Prep Extract Vol: **1 mL**

Results of **Mott (Hettinger)-DW**

Client Sample ID: **Mott (Hettinger)-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921027-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.777	2.01	ng/L	1	11/4/2020 18:26
NMeFOSAA	ND	U	0.713	2.01	ng/L	1	11/4/2020 18:26
PFBS	ND	U	0.467	2.01	ng/L	1	11/4/2020 18:26
PFDA	ND	U	0.457	2.01	ng/L	1	11/4/2020 18:26
PFDoA	ND	U	0.498	2.01	ng/L	1	11/4/2020 18:26
PFHpA	ND	U	0.586	2.01	ng/L	1	11/4/2020 18:26
PFHxA	ND	U	0.622	2.01	ng/L	1	11/4/2020 18:26
PFHxS	ND	U	0.509	2.01	ng/L	1	11/4/2020 18:26
PFNA	ND	U	0.424	2.01	ng/L	1	11/4/2020 18:26
PFOA	ND	U	0.498	2.01	ng/L	1	11/4/2020 18:26
PFOS	ND	U	0.487	2.01	ng/L	1	11/4/2020 18:26
PFTreA	ND	U	0.308	2.01	ng/L	1	11/4/2020 18:26
PFTriA	ND	U	0.397	2.01	ng/L	1	11/4/2020 18:26
PFuNA	ND	U	0.348	2.01	ng/L	1	11/4/2020 18:26
NaDONA	ND	U	0.436	2.01	ng/L	1	11/4/2020 18:26
9Cl-PF3ONS	ND	U	0.421	2.01	ng/L	1	11/4/2020 18:26
11Cl-PF3OUdS	ND	U	0.482	2.01	ng/L	1	11/4/2020 18:26
HFPO-DA (GenX)	ND	U	1.41	2.01	ng/L	1	11/4/2020 18:26
Surrogates							
13C2-PFDA	83.2			70.0-130	%	1	11/4/2020 18:26
13C2-PFHxA	82.2			70.0-130	%	1	11/4/2020 18:26
d5-NEtFOSAA	75.1			70.0-130	%	1	11/4/2020 18:26
13C3-HFPO-DA	80.3			70.0-130	%	1	11/4/2020 18:26

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 18:26**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **249 mL**
Prep Extract Vol: **1 mL**

Results of **SWA (Clark)(New Plant)-DW**

Client Sample ID: **SWA (Clark)(New Plant)-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921028-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 10:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.787	2.03	ng/L	1	11/4/2020 18:42
NMeFOSAA	ND	U	0.722	2.03	ng/L	1	11/4/2020 18:42
PFBS	ND	U	0.473	2.03	ng/L	1	11/4/2020 18:42
PFDA	ND	U	0.462	2.03	ng/L	1	11/4/2020 18:42
PFDoA	ND	U	0.504	2.03	ng/L	1	11/4/2020 18:42
PFHpA	ND	U	0.593	2.03	ng/L	1	11/4/2020 18:42
PFHxA	ND	U	0.630	2.03	ng/L	1	11/4/2020 18:42
PFHxS	ND	U	0.515	2.03	ng/L	1	11/4/2020 18:42
PFNA	ND	U	0.429	2.03	ng/L	1	11/4/2020 18:42
PFOA	ND	U	0.504	2.03	ng/L	1	11/4/2020 18:42
PFOS	ND	U	0.493	2.03	ng/L	1	11/4/2020 18:42
PFTreA	ND	U	0.312	2.03	ng/L	1	11/4/2020 18:42
PFTriA	ND	U	0.401	2.03	ng/L	1	11/4/2020 18:42
PFuNA	ND	U	0.353	2.03	ng/L	1	11/4/2020 18:42
NaDONA	ND	U	0.441	2.03	ng/L	1	11/4/2020 18:42
9Cl-PF3ONS	ND	U	0.426	2.03	ng/L	1	11/4/2020 18:42
11Cl-PF3OUdS	ND	U	0.488	2.03	ng/L	1	11/4/2020 18:42
HFPO-DA (GenX)	ND	U	1.43	2.03	ng/L	1	11/4/2020 18:42
Surrogates							
13C2-PFDA	77.4			70.0-130	%	1	11/4/2020 18:42
13C2-PFHxA	79.1			70.0-130	%	1	11/4/2020 18:42
d5-NEtFOSAA	74.5			70.0-130	%	1	11/4/2020 18:42
13C3-HFPO-DA	76.2			70.0-130	%	1	11/4/2020 18:42

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 18:42**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **246 mL**
Prep Extract Vol: **1 mL**

Results of **Hettinger-DW**

Client Sample ID: **Hettinger-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921029-A
Lab Project ID: 32001921

Collection Date: 10/15/2020 08:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.787	2.03	ng/L	1	10/30/2020 22:53
NMeFOSAA	ND	U	0.722	2.03	ng/L	1	10/30/2020 22:53
PFBS	ND	U	0.473	2.03	ng/L	1	10/30/2020 22:53
PFDA	ND	U	0.462	2.03	ng/L	1	10/30/2020 22:53
PFDoA	ND	U	0.504	2.03	ng/L	1	10/30/2020 22:53
PFHpA	ND	U	0.593	2.03	ng/L	1	10/30/2020 22:53
PFHxA	ND	U	0.630	2.03	ng/L	1	10/30/2020 22:53
PFHxS	ND	U	0.515	2.03	ng/L	1	10/30/2020 22:53
PFNA	ND	U	0.429	2.03	ng/L	1	10/30/2020 22:53
PFOA	ND	U	0.504	2.03	ng/L	1	10/30/2020 22:53
PFOS	ND	U	0.493	2.03	ng/L	1	10/30/2020 22:53
PFTreA	ND	U	0.312	2.03	ng/L	1	10/30/2020 22:53
PFTriA	ND	U	0.401	2.03	ng/L	1	10/30/2020 22:53
PFuNA	ND	U	0.353	2.03	ng/L	1	10/30/2020 22:53
NaDONA	ND	U	0.441	2.03	ng/L	1	10/30/2020 22:53
9Cl-PF3ONS	ND	U	0.426	2.03	ng/L	1	10/30/2020 22:53
11Cl-PF3OUdS	ND	U	0.488	2.03	ng/L	1	10/30/2020 22:53
HFPO-DA (GenX)	ND	U	1.43	2.03	ng/L	1	10/30/2020 22:53
Surrogates							
13C2-PFDA	98.0			70.0-130	%	1	10/30/2020 22:53
13C2-PFHxA	103			70.0-130	%	1	10/30/2020 22:53
d5-NEtFOSAA	97.4			70.0-130	%	1	10/30/2020 22:53
13C3-HFPO-DA	120			70.0-130	%	1	10/30/2020 22:53

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 22:53**

Prep Batch: **HXX2637**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/28/2020 18:49**
Prep Initial Wt./Vol.: **246 mL**
Prep Extract Vol: **1 mL**

Results of **Mormath (Slope)-DW**

Client Sample ID: **Mormath (Slope)-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921030-A
Lab Project ID: 32001921

Collection Date: 10/15/2020 11:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.813	2.10	ng/L	1	10/30/2020 23:26
NMeFOSAA	ND	U	0.746	2.10	ng/L	1	10/30/2020 23:26
PFBS	ND	U	0.488	2.10	ng/L	1	10/30/2020 23:26
PFDA	ND	U	0.478	2.10	ng/L	1	10/30/2020 23:26
PFDoA	ND	U	0.521	2.10	ng/L	1	10/30/2020 23:26
PFHpA	ND	U	0.613	2.10	ng/L	1	10/30/2020 23:26
PFHxA	ND	U	0.651	2.10	ng/L	1	10/30/2020 23:26
PFHxS	ND	U	0.533	2.10	ng/L	1	10/30/2020 23:26
PFNA	ND	U	0.443	2.10	ng/L	1	10/30/2020 23:26
PFOA	ND	U	0.521	2.10	ng/L	1	10/30/2020 23:26
PFOS	ND	U	0.509	2.10	ng/L	1	10/30/2020 23:26
PFTreA	ND	U	0.322	2.10	ng/L	1	10/30/2020 23:26
PFTriA	ND	U	0.415	2.10	ng/L	1	10/30/2020 23:26
PFuNA	ND	U	0.364	2.10	ng/L	1	10/30/2020 23:26
NaDONA	ND	U	0.456	2.10	ng/L	1	10/30/2020 23:26
9Cl-PF3ONS	ND	U	0.440	2.10	ng/L	1	10/30/2020 23:26
11Cl-PF3OUdS	ND	U	0.504	2.10	ng/L	1	10/30/2020 23:26
HFPO-DA (GenX)	ND	U	1.48	2.10	ng/L	1	10/30/2020 23:26
Surrogates							
13C2-PFDA	82.3			70.0-130	%	1	10/30/2020 23:26
13C2-PFHxA	85.7			70.0-130	%	1	10/30/2020 23:26
d5-NEtFOSAA	81.1			70.0-130	%	1	10/30/2020 23:26
13C3-HFPO-DA	98.0			70.0-130	%	1	10/30/2020 23:26

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 23:26**

Prep Batch: **HXX2637**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/28/2020 18:49**
Prep Initial Wt./Vol.: **238 mL**
Prep Extract Vol: **1 mL**

Results of **Bowman-DW**

Client Sample ID: **Bowman-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921031-A
Lab Project ID: 32001921

Collection Date: 10/15/2020 09:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.777	2.01	ng/L	1	10/28/2020 15:15
NMeFOSAA	ND	U	0.713	2.01	ng/L	1	10/28/2020 15:15
PFBS	ND	U	0.467	2.01	ng/L	1	10/28/2020 15:15
PFDA	ND	U	0.457	2.01	ng/L	1	10/28/2020 15:15
PFDoA	ND	U	0.498	2.01	ng/L	1	10/28/2020 15:15
PFHpA	ND	U	0.586	2.01	ng/L	1	10/28/2020 15:15
PFHxA	ND	U	0.622	2.01	ng/L	1	10/28/2020 15:15
PFHxS	ND	U	0.509	2.01	ng/L	1	10/28/2020 15:15
PFNA	ND	U	0.424	2.01	ng/L	1	10/28/2020 15:15
PFOA	ND	U	0.498	2.01	ng/L	1	10/28/2020 15:15
PFOS	ND	U	0.487	2.01	ng/L	1	10/28/2020 15:15
PFTreA	ND	U	0.308	2.01	ng/L	1	10/28/2020 15:15
PFTriA	ND	U	0.397	2.01	ng/L	1	10/28/2020 15:15
PFuNA	ND	U	0.348	2.01	ng/L	1	10/28/2020 15:15
NaDONA	ND	U	0.436	2.01	ng/L	1	10/28/2020 15:15
9Cl-PF3ONS	ND	U	0.421	2.01	ng/L	1	10/28/2020 15:15
11Cl-PF3OUdS	ND	U	0.482	2.01	ng/L	1	10/28/2020 15:15
HFPO-DA (GenX)	ND	U	1.41	2.01	ng/L	1	10/28/2020 15:15
Surrogates							
13C2-PFDA	98.4			70.0-130	%	1	10/28/2020 15:15
13C2-PFHxA	95.7			70.0-130	%	1	10/28/2020 15:15
d5-NEtFOSAA	96.5			70.0-130	%	1	10/28/2020 15:15
13C3-HFPO-DA	110			70.0-130	%	1	10/28/2020 15:15

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 15:15**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **249 mL**
Prep Extract Vol: **1 mL**

Results of **Killdeer Lodge-DW**

Client Sample ID: **Killdeer Lodge-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921032-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 11:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.765	1.98	ng/L	1	10/30/2020 18:32
NMeFOSAA	ND	U	0.702	1.98	ng/L	1	10/30/2020 18:32
PFBS	ND	U	0.459	1.98	ng/L	1	10/30/2020 18:32
PFDA	ND	U	0.450	1.98	ng/L	1	10/30/2020 18:32
PFDoA	ND	U	0.490	1.98	ng/L	1	10/30/2020 18:32
PFHpA	ND	U	0.577	1.98	ng/L	1	10/30/2020 18:32
PFHxA	ND	U	0.613	1.98	ng/L	1	10/30/2020 18:32
PFHxS	ND	U	0.501	1.98	ng/L	1	10/30/2020 18:32
PFNA	ND	U	0.417	1.98	ng/L	1	10/30/2020 18:32
PFOA	ND	U	0.490	1.98	ng/L	1	10/30/2020 18:32
PFOS	ND	U	0.479	1.98	ng/L	1	10/30/2020 18:32
PFTreA	ND	U	0.303	1.98	ng/L	1	10/30/2020 18:32
PFTriA	ND	U	0.390	1.98	ng/L	1	10/30/2020 18:32
PFuNA	ND	U	0.343	1.98	ng/L	1	10/30/2020 18:32
NaDONA	ND	U	0.429	1.98	ng/L	1	10/30/2020 18:32
9Cl-PF3ONS	ND	U	0.414	1.98	ng/L	1	10/30/2020 18:32
11Cl-PF3OUdS	ND	U	0.474	1.98	ng/L	1	10/30/2020 18:32
HFPO-DA (GenX)	ND	U	1.39	1.98	ng/L	1	10/30/2020 18:32
Surrogates							
13C2-PFDA	100			70.0-130	%	1	10/30/2020 18:32
13C2-PFHxA	109			70.0-130	%	1	10/30/2020 18:32
d5-NEtFOSAA	98.5			70.0-130	%	1	10/30/2020 18:32
13C3-HFPO-DA	111			70.0-130	%	1	10/30/2020 18:32

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 18:32**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **253 mL**
Prep Extract Vol: **1 mL**

Results of **Burlington-DW**

Client Sample ID: **Burlington-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921033-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 13:25
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	11/4/2020 18:58
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	11/4/2020 18:58
PFBS	ND	U	0.478	2.06	ng/L	1	11/4/2020 18:58
PFDA	ND	U	0.468	2.06	ng/L	1	11/4/2020 18:58
PFDoA	ND	U	0.510	2.06	ng/L	1	11/4/2020 18:58
PFHpA	ND	U	0.601	2.06	ng/L	1	11/4/2020 18:58
PFHxA	ND	U	0.638	2.06	ng/L	1	11/4/2020 18:58
PFHxS	ND	U	0.522	2.06	ng/L	1	11/4/2020 18:58
PFNA	ND	U	0.434	2.06	ng/L	1	11/4/2020 18:58
PFOA	ND	U	0.510	2.06	ng/L	1	11/4/2020 18:58
PFOS	ND	U	0.499	2.06	ng/L	1	11/4/2020 18:58
PFTreA	ND	U	0.316	2.06	ng/L	1	11/4/2020 18:58
PFTriA	ND	U	0.406	2.06	ng/L	1	11/4/2020 18:58
PFuNA	ND	U	0.357	2.06	ng/L	1	11/4/2020 18:58
NaDONA	ND	U	0.447	2.06	ng/L	1	11/4/2020 18:58
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	11/4/2020 18:58
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	11/4/2020 18:58
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	11/4/2020 18:58
Surrogates							
13C2-PFDA	79.4			70.0-130	%	1	11/4/2020 18:58
13C2-PFHxA	77.3			70.0-130	%	1	11/4/2020 18:58
d5-NEtFOSAA	73.0			70.0-130	%	1	11/4/2020 18:58
13C3-HFPO-DA	78.2			70.0-130	%	1	11/4/2020 18:58

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 18:58**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Glenburn-DW**

Client Sample ID: **Glenburn-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921034-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 11:55
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/29/2020 13:10
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/29/2020 13:10
PFBS	ND	U	0.478	2.06	ng/L	1	10/29/2020 13:10
PFDA	ND	U	0.468	2.06	ng/L	1	10/29/2020 13:10
PFDoA	ND	U	0.510	2.06	ng/L	1	10/29/2020 13:10
PFHpA	ND	U	0.601	2.06	ng/L	1	10/29/2020 13:10
PFHxA	ND	U	0.638	2.06	ng/L	1	10/29/2020 13:10
PFHxS	ND	U	0.522	2.06	ng/L	1	10/29/2020 13:10
PFNA	ND	U	0.434	2.06	ng/L	1	10/29/2020 13:10
PFOA	ND	U	0.510	2.06	ng/L	1	10/29/2020 13:10
PFOS	ND	U	0.499	2.06	ng/L	1	10/29/2020 13:10
PFTreA	ND	U	0.316	2.06	ng/L	1	10/29/2020 13:10
PFTriA	ND	U	0.406	2.06	ng/L	1	10/29/2020 13:10
PFuNA	ND	U	0.357	2.06	ng/L	1	10/29/2020 13:10
NaDONA	ND	U	0.447	2.06	ng/L	1	10/29/2020 13:10
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/29/2020 13:10
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/29/2020 13:10
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/29/2020 13:10
Surrogates							
13C2-PFDA	94.2			70.0-130	%	1	10/29/2020 13:10
13C2-PFHxA	98.9			70.0-130	%	1	10/29/2020 13:10
d5-NEtFOSAA	89.6			70.0-130	%	1	10/29/2020 13:10
13C3-HFPO-DA	93.0			70.0-130	%	1	10/29/2020 13:10

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 13:10**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Powers Lake-DW**

Client Sample ID: **Powers Lake-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921035-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 10:10
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.820	2.12	ng/L	1	10/29/2020 13:43
NMeFOSAA	ND	U	0.752	2.12	ng/L	1	10/29/2020 13:43
PFBS	ND	U	0.493	2.12	ng/L	1	10/29/2020 13:43
PFDA	ND	U	0.482	2.12	ng/L	1	10/29/2020 13:43
PFDoA	ND	U	0.525	2.12	ng/L	1	10/29/2020 13:43
PFHpA	ND	U	0.619	2.12	ng/L	1	10/29/2020 13:43
PFHxA	ND	U	0.657	2.12	ng/L	1	10/29/2020 13:43
PFHxS	ND	U	0.537	2.12	ng/L	1	10/29/2020 13:43
PFNA	ND	U	0.447	2.12	ng/L	1	10/29/2020 13:43
PFOA	ND	U	0.525	2.12	ng/L	1	10/29/2020 13:43
PFOS	ND	U	0.514	2.12	ng/L	1	10/29/2020 13:43
PFTreA	ND	U	0.325	2.12	ng/L	1	10/29/2020 13:43
PFTriA	ND	U	0.418	2.12	ng/L	1	10/29/2020 13:43
PFuNA	ND	U	0.368	2.12	ng/L	1	10/29/2020 13:43
NaDONA	ND	U	0.460	2.12	ng/L	1	10/29/2020 13:43
9Cl-PF3ONS	ND	U	0.444	2.12	ng/L	1	10/29/2020 13:43
11Cl-PF3OUdS	ND	U	0.508	2.12	ng/L	1	10/29/2020 13:43
HFPO-DA (GenX)	ND	U	1.49	2.12	ng/L	1	10/29/2020 13:43
Surrogates							
13C2-PFDA	84.2			70.0-130	%	1	10/29/2020 13:43
13C2-PFHxA	92.2			70.0-130	%	1	10/29/2020 13:43
d5-NEtFOSAA	80.2			70.0-130	%	1	10/29/2020 13:43
13C3-HFPO-DA	77.5			70.0-130	%	1	10/29/2020 13:43

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 13:43**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **236 mL**
Prep Extract Vol: **1 mL**

Results of **Ambrose-DW**

Client Sample ID: **Ambrose-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921036-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:20
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.753	1.95	ng/L	1	10/29/2020 13:59
NMeFOSAA	ND	U	0.691	1.95	ng/L	1	10/29/2020 13:59
PFBS	ND	U	0.452	1.95	ng/L	1	10/29/2020 13:59
PFDA	ND	U	0.443	1.95	ng/L	1	10/29/2020 13:59
PFDoA	ND	U	0.482	1.95	ng/L	1	10/29/2020 13:59
PFHpA	ND	U	0.568	1.95	ng/L	1	10/29/2020 13:59
PFHxA	ND	U	0.603	1.95	ng/L	1	10/29/2020 13:59
PFHxS	ND	U	0.493	1.95	ng/L	1	10/29/2020 13:59
PFNA	ND	U	0.411	1.95	ng/L	1	10/29/2020 13:59
PFOA	ND	U	0.482	1.95	ng/L	1	10/29/2020 13:59
PFOS	ND	U	0.472	1.95	ng/L	1	10/29/2020 13:59
PFTreA	ND	U	0.299	1.95	ng/L	1	10/29/2020 13:59
PFTriA	ND	U	0.384	1.95	ng/L	1	10/29/2020 13:59
PFuNA	ND	U	0.338	1.95	ng/L	1	10/29/2020 13:59
NaDONA	ND	U	0.422	1.95	ng/L	1	10/29/2020 13:59
9Cl-PF3ONS	ND	U	0.408	1.95	ng/L	1	10/29/2020 13:59
11Cl-PF3OUdS	ND	U	0.467	1.95	ng/L	1	10/29/2020 13:59
HFPO-DA (GenX)	ND	U	1.37	1.95	ng/L	1	10/29/2020 13:59
Surrogates							
13C2-PFDA	88.4			70.0-130	%	1	10/29/2020 13:59
13C2-PFHxA	92.1			70.0-130	%	1	10/29/2020 13:59
d5-NEtFOSAA	92.8			70.0-130	%	1	10/29/2020 13:59
13C3-HFPO-DA	84.4			70.0-130	%	1	10/29/2020 13:59

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 13:59**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **257 mL**
Prep Extract Vol: **1 mL**

Results of **Blue Duplicate-DW**

Client Sample ID: **Blue Duplicate-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921037-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 15:40
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.762	1.97	ng/L	1	10/30/2020 18:49
NMeFOSAA	ND	U	0.699	1.97	ng/L	1	10/30/2020 18:49
PFBS	ND	U	0.458	1.97	ng/L	1	10/30/2020 18:49
PFDA	ND	U	0.448	1.97	ng/L	1	10/30/2020 18:49
PFDoA	ND	U	0.488	1.97	ng/L	1	10/30/2020 18:49
PFHpA	ND	U	0.575	1.97	ng/L	1	10/30/2020 18:49
PFHxA	ND	U	0.610	1.97	ng/L	1	10/30/2020 18:49
PFHxS	ND	U	0.499	1.97	ng/L	1	10/30/2020 18:49
PFNA	ND	U	0.415	1.97	ng/L	1	10/30/2020 18:49
PFOA	ND	U	0.488	1.97	ng/L	1	10/30/2020 18:49
PFOS	ND	U	0.477	1.97	ng/L	1	10/30/2020 18:49
PFTreA	ND	U	0.302	1.97	ng/L	1	10/30/2020 18:49
PFTriA	ND	U	0.389	1.97	ng/L	1	10/30/2020 18:49
PFuNA	ND	U	0.342	1.97	ng/L	1	10/30/2020 18:49
NaDONA	ND	U	0.427	1.97	ng/L	1	10/30/2020 18:49
9Cl-PF3ONS	ND	U	0.412	1.97	ng/L	1	10/30/2020 18:49
11Cl-PF3OUdS	ND	U	0.472	1.97	ng/L	1	10/30/2020 18:49
HFPO-DA (GenX)	ND	U	1.39	1.97	ng/L	1	10/30/2020 18:49
Surrogates							
13C2-PFDA	95.7			70.0-130	%	1	10/30/2020 18:49
13C2-PFHxA	102			70.0-130	%	1	10/30/2020 18:49
d5-NEtFOSAA	91.3			70.0-130	%	1	10/30/2020 18:49
13C3-HFPO-DA	107			70.0-130	%	1	10/30/2020 18:49

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 18:49**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **254 mL**
Prep Extract Vol: **1 mL**

Results of **Williston-DW**

Client Sample ID: **Williston-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921038-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 15:40
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.765	1.98	ng/L	1	10/30/2020 19:05
NMeFOSAA	ND	U	0.702	1.98	ng/L	1	10/30/2020 19:05
PFBS	ND	U	0.459	1.98	ng/L	1	10/30/2020 19:05
PFDA	ND	U	0.450	1.98	ng/L	1	10/30/2020 19:05
PFDoA	ND	U	0.490	1.98	ng/L	1	10/30/2020 19:05
PFHpA	ND	U	0.577	1.98	ng/L	1	10/30/2020 19:05
PFHxA	ND	U	0.613	1.98	ng/L	1	10/30/2020 19:05
PFHxS	ND	U	0.501	1.98	ng/L	1	10/30/2020 19:05
PFNA	ND	U	0.417	1.98	ng/L	1	10/30/2020 19:05
PFOA	ND	U	0.490	1.98	ng/L	1	10/30/2020 19:05
PFOS	ND	U	0.479	1.98	ng/L	1	10/30/2020 19:05
PFTreA	ND	U	0.303	1.98	ng/L	1	10/30/2020 19:05
PFTriA	ND	U	0.390	1.98	ng/L	1	10/30/2020 19:05
PFuNA	ND	U	0.343	1.98	ng/L	1	10/30/2020 19:05
NaDONA	ND	U	0.429	1.98	ng/L	1	10/30/2020 19:05
9Cl-PF3ONS	ND	U	0.414	1.98	ng/L	1	10/30/2020 19:05
11Cl-PF3OUdS	ND	U	0.474	1.98	ng/L	1	10/30/2020 19:05
HFPO-DA (GenX)	ND	U	1.39	1.98	ng/L	1	10/30/2020 19:05
Surrogates							
13C2-PFDA	95.2			70.0-130	%	1	10/30/2020 19:05
13C2-PFHxA	101			70.0-130	%	1	10/30/2020 19:05
d5-NEtFOSAA	87.7			70.0-130	%	1	10/30/2020 19:05
13C3-HFPO-DA	105			70.0-130	%	1	10/30/2020 19:05

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 19:05**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **253 mL**
Prep Extract Vol: **1 mL**

Results of **Arnegard Diamond Estates-DW**

Client Sample ID: **Arnegard Diamond Estates-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921039-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 14:25
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.790	2.04	ng/L	1	10/30/2020 19:21
NMeFOSAA	ND	U	0.724	2.04	ng/L	1	10/30/2020 19:21
PFBS	ND	U	0.474	2.04	ng/L	1	10/30/2020 19:21
PFDA	ND	U	0.464	2.04	ng/L	1	10/30/2020 19:21
PFDoA	ND	U	0.506	2.04	ng/L	1	10/30/2020 19:21
PFHpA	ND	U	0.596	2.04	ng/L	1	10/30/2020 19:21
PFHxA	ND	U	0.633	2.04	ng/L	1	10/30/2020 19:21
PFHxS	ND	U	0.517	2.04	ng/L	1	10/30/2020 19:21
PFNA	ND	U	0.431	2.04	ng/L	1	10/30/2020 19:21
PFOA	ND	U	0.506	2.04	ng/L	1	10/30/2020 19:21
PFOS	ND	U	0.495	2.04	ng/L	1	10/30/2020 19:21
PFTreA	ND	U	0.313	2.04	ng/L	1	10/30/2020 19:21
PFTriA	ND	U	0.403	2.04	ng/L	1	10/30/2020 19:21
PFuNA	ND	U	0.354	2.04	ng/L	1	10/30/2020 19:21
NaDONA	ND	U	0.443	2.04	ng/L	1	10/30/2020 19:21
9Cl-PF3ONS	ND	U	0.428	2.04	ng/L	1	10/30/2020 19:21
11Cl-PF3OUdS	ND	U	0.490	2.04	ng/L	1	10/30/2020 19:21
HFPO-DA (GenX)	ND	U	1.44	2.04	ng/L	1	10/30/2020 19:21
Surrogates							
13C2-PFDA	93.1			70.0-130	%	1	10/30/2020 19:21
13C2-PFHxA	99.3			70.0-130	%	1	10/30/2020 19:21
d5-NEtFOSAA	90.2			70.0-130	%	1	10/30/2020 19:21
13C3-HFPO-DA	107			70.0-130	%	1	10/30/2020 19:21

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 19:21**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **245 mL**
Prep Extract Vol: **1 mL**

Results of **New Town-DW**

Client Sample ID: **New Town-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921040-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 12:50
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/30/2020 19:38
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/30/2020 19:38
PFBS	ND	U	0.478	2.06	ng/L	1	10/30/2020 19:38
PFDA	ND	U	0.468	2.06	ng/L	1	10/30/2020 19:38
PFDoA	ND	U	0.510	2.06	ng/L	1	10/30/2020 19:38
PFHpA	ND	U	0.601	2.06	ng/L	1	10/30/2020 19:38
PFHxA	ND	U	0.638	2.06	ng/L	1	10/30/2020 19:38
PFHxS	ND	U	0.522	2.06	ng/L	1	10/30/2020 19:38
PFNA	ND	U	0.434	2.06	ng/L	1	10/30/2020 19:38
PFOA	ND	U	0.510	2.06	ng/L	1	10/30/2020 19:38
PFOS	ND	U	0.499	2.06	ng/L	1	10/30/2020 19:38
PFTreA	ND	U	0.316	2.06	ng/L	1	10/30/2020 19:38
PFTriA	ND	U	0.406	2.06	ng/L	1	10/30/2020 19:38
PFuNA	ND	U	0.357	2.06	ng/L	1	10/30/2020 19:38
NaDONA	ND	U	0.447	2.06	ng/L	1	10/30/2020 19:38
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/30/2020 19:38
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/30/2020 19:38
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/30/2020 19:38
Surrogates							
13C2-PFDA	88.7			70.0-130	%	1	10/30/2020 19:38
13C2-PFHxA	93.8			70.0-130	%	1	10/30/2020 19:38
d5-NEtFOSAA	82.7			70.0-130	%	1	10/30/2020 19:38
13C3-HFPO-DA	100			70.0-130	%	1	10/30/2020 19:38

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 19:38**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **OMND Plant-DW**

Client Sample ID: **OMND Plant-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921041-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 09:40
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.787	2.03	ng/L	1	10/30/2020 19:54
NMeFOSAA	ND	U	0.722	2.03	ng/L	1	10/30/2020 19:54
PFBS	ND	U	0.473	2.03	ng/L	1	10/30/2020 19:54
PFDA	ND	U	0.462	2.03	ng/L	1	10/30/2020 19:54
PFDoA	ND	U	0.504	2.03	ng/L	1	10/30/2020 19:54
PFHpA	ND	U	0.593	2.03	ng/L	1	10/30/2020 19:54
PFHxA	ND	U	0.630	2.03	ng/L	1	10/30/2020 19:54
PFHxS	ND	U	0.515	2.03	ng/L	1	10/30/2020 19:54
PFNA	ND	U	0.429	2.03	ng/L	1	10/30/2020 19:54
PFOA	ND	U	0.504	2.03	ng/L	1	10/30/2020 19:54
PFOS	ND	U	0.493	2.03	ng/L	1	10/30/2020 19:54
PFTreA	ND	U	0.312	2.03	ng/L	1	10/30/2020 19:54
PFTriA	ND	U	0.401	2.03	ng/L	1	10/30/2020 19:54
PFuNA	ND	U	0.353	2.03	ng/L	1	10/30/2020 19:54
NaDONA	ND	U	0.441	2.03	ng/L	1	10/30/2020 19:54
9Cl-PF3ONS	ND	U	0.426	2.03	ng/L	1	10/30/2020 19:54
11Cl-PF3OUdS	ND	U	0.488	2.03	ng/L	1	10/30/2020 19:54
HFPO-DA (GenX)	ND	U	1.43	2.03	ng/L	1	10/30/2020 19:54
Surrogates							
13C2-PFDA	104			70.0-130	%	1	10/30/2020 19:54
13C2-PFHxA	107			70.0-130	%	1	10/30/2020 19:54
d5-NEtFOSAA	105			70.0-130	%	1	10/30/2020 19:54
13C3-HFPO-DA	119			70.0-130	%	1	10/30/2020 19:54

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 19:54**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **246 mL**
Prep Extract Vol: **1 mL**

Results of **Beulah-DW**

Client Sample ID: **Beulah-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921042-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 08:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.736	1.90	ng/L	1	10/30/2020 20:10
NMeFOSAA	ND	U	0.675	1.90	ng/L	1	10/30/2020 20:10
PFBS	ND	U	0.442	1.90	ng/L	1	10/30/2020 20:10
PFDA	ND	U	0.433	1.90	ng/L	1	10/30/2020 20:10
PFDoA	ND	U	0.471	1.90	ng/L	1	10/30/2020 20:10
PFHpA	ND	U	0.555	1.90	ng/L	1	10/30/2020 20:10
PFHxA	ND	U	0.589	1.90	ng/L	1	10/30/2020 20:10
PFHxS	ND	U	0.482	1.90	ng/L	1	10/30/2020 20:10
PFNA	ND	U	0.401	1.90	ng/L	1	10/30/2020 20:10
PFOA	ND	U	0.471	1.90	ng/L	1	10/30/2020 20:10
PFOS	ND	U	0.461	1.90	ng/L	1	10/30/2020 20:10
PFTreA	ND	U	0.292	1.90	ng/L	1	10/30/2020 20:10
PFTriA	ND	U	0.375	1.90	ng/L	1	10/30/2020 20:10
PFuNA	ND	U	0.330	1.90	ng/L	1	10/30/2020 20:10
NaDONA	ND	U	0.413	1.90	ng/L	1	10/30/2020 20:10
9Cl-PF3ONS	ND	U	0.398	1.90	ng/L	1	10/30/2020 20:10
11Cl-PF3OUdS	ND	U	0.456	1.90	ng/L	1	10/30/2020 20:10
HFPO-DA (GenX)	ND	U	1.34	1.90	ng/L	1	10/30/2020 20:10
Surrogates							
13C2-PFDA	89.3			70.0-130	%	1	10/30/2020 20:10
13C2-PFHxA	95.8			70.0-130	%	1	10/30/2020 20:10
d5-NEtFOSAA	89.1			70.0-130	%	1	10/30/2020 20:10
13C3-HFPO-DA	104			70.0-130	%	1	10/30/2020 20:10

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 20:10**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **263 mL**
Prep Extract Vol: **1 mL**

Results of **New Rockford-DW**

Client Sample ID: **New Rockford-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921043-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 10:15
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/30/2020 20:26
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/30/2020 20:26
PFBS	ND	U	0.478	2.06	ng/L	1	10/30/2020 20:26
PFDA	ND	U	0.468	2.06	ng/L	1	10/30/2020 20:26
PFDoA	ND	U	0.510	2.06	ng/L	1	10/30/2020 20:26
PFHpA	ND	U	0.601	2.06	ng/L	1	10/30/2020 20:26
PFHxA	ND	U	0.638	2.06	ng/L	1	10/30/2020 20:26
PFHxS	ND	U	0.522	2.06	ng/L	1	10/30/2020 20:26
PFNA	ND	U	0.434	2.06	ng/L	1	10/30/2020 20:26
PFOA	ND	U	0.510	2.06	ng/L	1	10/30/2020 20:26
PFOS	ND	U	0.499	2.06	ng/L	1	10/30/2020 20:26
PFTreA	ND	U	0.316	2.06	ng/L	1	10/30/2020 20:26
PFTriA	ND	U	0.406	2.06	ng/L	1	10/30/2020 20:26
PFuNA	ND	U	0.357	2.06	ng/L	1	10/30/2020 20:26
NaDONA	ND	U	0.447	2.06	ng/L	1	10/30/2020 20:26
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/30/2020 20:26
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/30/2020 20:26
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/30/2020 20:26
Surrogates							
13C2-PFDA	77.5			70.0-130	%	1	10/30/2020 20:26
13C2-PFHxA	83.4			70.0-130	%	1	10/30/2020 20:26
d5-NEtFOSAA	71.4			70.0-130	%	1	10/30/2020 20:26
13C3-HFPO-DA	89.5			70.0-130	%	1	10/30/2020 20:26

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 20:26**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Carrington-DW**

Client Sample ID: **Carrington-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921044-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 09:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.777	2.01	ng/L	1	10/30/2020 20:43
NMeFOSAA	ND	U	0.713	2.01	ng/L	1	10/30/2020 20:43
PFBS	ND	U	0.467	2.01	ng/L	1	10/30/2020 20:43
PFDA	ND	U	0.457	2.01	ng/L	1	10/30/2020 20:43
PFDoA	ND	U	0.498	2.01	ng/L	1	10/30/2020 20:43
PFHpA	ND	U	0.586	2.01	ng/L	1	10/30/2020 20:43
PFHxA	ND	U	0.622	2.01	ng/L	1	10/30/2020 20:43
PFHxS	ND	U	0.509	2.01	ng/L	1	10/30/2020 20:43
PFNA	ND	U	0.424	2.01	ng/L	1	10/30/2020 20:43
PFOA	ND	U	0.498	2.01	ng/L	1	10/30/2020 20:43
PFOS	ND	U	0.487	2.01	ng/L	1	10/30/2020 20:43
PFTreA	ND	U	0.308	2.01	ng/L	1	10/30/2020 20:43
PFTriA	ND	U	0.397	2.01	ng/L	1	10/30/2020 20:43
PFuNA	ND	U	0.348	2.01	ng/L	1	10/30/2020 20:43
NaDONA	ND	U	0.436	2.01	ng/L	1	10/30/2020 20:43
9Cl-PF3ONS	ND	U	0.421	2.01	ng/L	1	10/30/2020 20:43
11Cl-PF3OUdS	ND	U	0.482	2.01	ng/L	1	10/30/2020 20:43
HFPO-DA (GenX)	ND	U	1.41	2.01	ng/L	1	10/30/2020 20:43
Surrogates							
13C2-PFDA	93.4			70.0-130	%	1	10/30/2020 20:43
13C2-PFHxA	98.4			70.0-130	%	1	10/30/2020 20:43
d5-NEtFOSAA	90.4			70.0-130	%	1	10/30/2020 20:43
13C3-HFPO-DA	111			70.0-130	%	1	10/30/2020 20:43

Batch Information

Analytical Batch: **XLC1613**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/30/2020 20:43**

Prep Batch: **HXX2633**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/23/2020 20:49**
Prep Initial Wt./Vol.: **249 mL**
Prep Extract Vol: **1 mL**

Results of **Dakota RWD-South-DW**

Client Sample ID: **Dakota RWD-South-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921045-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 10:40
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.777	2.01	ng/L	1	10/29/2020 14:15
NMeFOSAA	ND	U	0.713	2.01	ng/L	1	10/29/2020 14:15
PFBS	ND	U	0.467	2.01	ng/L	1	10/29/2020 14:15
PFDA	ND	U	0.457	2.01	ng/L	1	10/29/2020 14:15
PFDoA	ND	U	0.498	2.01	ng/L	1	10/29/2020 14:15
PFHpA	ND	U	0.586	2.01	ng/L	1	10/29/2020 14:15
PFHxA	ND	U	0.622	2.01	ng/L	1	10/29/2020 14:15
PFHxS	ND	U	0.509	2.01	ng/L	1	10/29/2020 14:15
PFNA	ND	U	0.424	2.01	ng/L	1	10/29/2020 14:15
PFOA	ND	U	0.498	2.01	ng/L	1	10/29/2020 14:15
PFOS	ND	U	0.487	2.01	ng/L	1	10/29/2020 14:15
PFTreA	ND	U	0.308	2.01	ng/L	1	10/29/2020 14:15
PFTriA	ND	U	0.397	2.01	ng/L	1	10/29/2020 14:15
PFuNA	ND	U	0.348	2.01	ng/L	1	10/29/2020 14:15
NaDONA	ND	U	0.436	2.01	ng/L	1	10/29/2020 14:15
9Cl-PF3ONS	ND	U	0.421	2.01	ng/L	1	10/29/2020 14:15
11Cl-PF3OUdS	ND	U	0.482	2.01	ng/L	1	10/29/2020 14:15
HFPO-DA (GenX)	ND	U	1.41	2.01	ng/L	1	10/29/2020 14:15
Surrogates							
13C2-PFDA	83.3			70.0-130	%	1	10/29/2020 14:15
13C2-PFHxA	88.5			70.0-130	%	1	10/29/2020 14:15
d5-NEtFOSAA	85.5			70.0-130	%	1	10/29/2020 14:15
13C3-HFPO-DA	88.0			70.0-130	%	1	10/29/2020 14:15

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 14:15**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **249 mL**
Prep Extract Vol: **1 mL**

Results of **Michigan-DW**

Client Sample ID: **Michigan-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921046-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 09:20
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/29/2020 15:04
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/29/2020 15:04
PFBS	ND	U	0.478	2.06	ng/L	1	10/29/2020 15:04
PFDA	ND	U	0.468	2.06	ng/L	1	10/29/2020 15:04
PFDoA	ND	U	0.510	2.06	ng/L	1	10/29/2020 15:04
PFHpA	ND	U	0.601	2.06	ng/L	1	10/29/2020 15:04
PFHxA	ND	U	0.638	2.06	ng/L	1	10/29/2020 15:04
PFHxS	ND	U	0.522	2.06	ng/L	1	10/29/2020 15:04
PFNA	ND	U	0.434	2.06	ng/L	1	10/29/2020 15:04
PFOA	ND	U	0.510	2.06	ng/L	1	10/29/2020 15:04
PFOS	ND	U	0.499	2.06	ng/L	1	10/29/2020 15:04
PFTreA	ND	U	0.316	2.06	ng/L	1	10/29/2020 15:04
PFTriA	ND	U	0.406	2.06	ng/L	1	10/29/2020 15:04
PFuNA	**0.485**	J	0.357	2.06	ng/L	1	10/29/2020 15:04
NaDONA	ND	U	0.447	2.06	ng/L	1	10/29/2020 15:04
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/29/2020 15:04
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/29/2020 15:04
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/29/2020 15:04
Surrogates							
13C2-PFDA	89.8			70.0-130	%	1	10/29/2020 15:04
13C2-PFHxA	94.6			70.0-130	%	1	10/29/2020 15:04
d5-NEtFOSAA	92.5			70.0-130	%	1	10/29/2020 15:04
13C3-HFPO-DA	98.6			70.0-130	%	1	10/29/2020 15:04

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 15:04**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Park River-DW**

Client Sample ID: **Park River-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921047-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:10
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.816	2.11	ng/L	1	10/29/2020 14:32
NMeFOSAA	ND	U	0.749	2.11	ng/L	1	10/29/2020 14:32
PFBS	ND	U	0.491	2.11	ng/L	1	10/29/2020 14:32
PFDA	ND	U	0.480	2.11	ng/L	1	10/29/2020 14:32
PFDoA	ND	U	0.523	2.11	ng/L	1	10/29/2020 14:32
PFHpA	ND	U	0.616	2.11	ng/L	1	10/29/2020 14:32
PFHxA	ND	U	0.654	2.11	ng/L	1	10/29/2020 14:32
PFHxS	ND	U	0.535	2.11	ng/L	1	10/29/2020 14:32
PFNA	ND	U	0.445	2.11	ng/L	1	10/29/2020 14:32
PFOA	ND	U	0.523	2.11	ng/L	1	10/29/2020 14:32
PFOS	ND	U	0.512	2.11	ng/L	1	10/29/2020 14:32
PFTreA	ND	U	0.324	2.11	ng/L	1	10/29/2020 14:32
PFTriA	ND	U	0.417	2.11	ng/L	1	10/29/2020 14:32
PFuNA	ND	U	0.366	2.11	ng/L	1	10/29/2020 14:32
NaDONA	ND	U	0.458	2.11	ng/L	1	10/29/2020 14:32
9Cl-PF3ONS	ND	U	0.442	2.11	ng/L	1	10/29/2020 14:32
11Cl-PF3OUdS	ND	U	0.506	2.11	ng/L	1	10/29/2020 14:32
HFPO-DA (GenX)	ND	U	1.49	2.11	ng/L	1	10/29/2020 14:32
Surrogates							
13C2-PFDA	85.9			70.0-130	%	1	10/29/2020 14:32
13C2-PFHxA	90.0			70.0-130	%	1	10/29/2020 14:32
d5-NEtFOSAA	81.6			70.0-130	%	1	10/29/2020 14:32
13C3-HFPO-DA	95.2			70.0-130	%	1	10/29/2020 14:32

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/29/2020 14:32**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **237 mL**
Prep Extract Vol: **1 mL**

Results of **Green-Duplicate**

Client Sample ID: **Green-Duplicate**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921048-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 15:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.810	2.09	ng/L	1	11/4/2020 19:31
NMeFOSAA	ND	U	0.743	2.09	ng/L	1	11/4/2020 19:31
PFBS	ND	U	0.486	2.09	ng/L	1	11/4/2020 19:31
PFDA	ND	U	0.476	2.09	ng/L	1	11/4/2020 19:31
PFDoA	ND	U	0.519	2.09	ng/L	1	11/4/2020 19:31
PFHpA	ND	U	0.611	2.09	ng/L	1	11/4/2020 19:31
PFHxA	ND	U	0.649	2.09	ng/L	1	11/4/2020 19:31
PFHxS	ND	U	0.530	2.09	ng/L	1	11/4/2020 19:31
PFNA	ND	U	0.441	2.09	ng/L	1	11/4/2020 19:31
PFOA	ND	U	0.519	2.09	ng/L	1	11/4/2020 19:31
PFOS	ND	U	0.507	2.09	ng/L	1	11/4/2020 19:31
PFTreA	ND	U	0.321	2.09	ng/L	1	11/4/2020 19:31
PFTriA	ND	U	0.413	2.09	ng/L	1	11/4/2020 19:31
PFuNA	ND	U	0.363	2.09	ng/L	1	11/4/2020 19:31
NaDONA	ND	U	0.454	2.09	ng/L	1	11/4/2020 19:31
9Cl-PF3ONS	ND	U	0.438	2.09	ng/L	1	11/4/2020 19:31
11Cl-PF3OUdS	ND	U	0.502	2.09	ng/L	1	11/4/2020 19:31
HFPO-DA (GenX)	ND	U	1.47	2.09	ng/L	1	11/4/2020 19:31
Surrogates							
13C2-PFDA	74.3			70.0-130	%	1	11/4/2020 19:31
13C2-PFHxA	74.3			70.0-130	%	1	11/4/2020 19:31
d5-NEtFOSAA	64.7*			70.0-130	%	1	11/4/2020 19:31
13C3-HFPO-DA	74.0			70.0-130	%	1	11/4/2020 19:31

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 19:31**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **239 mL**
Prep Extract Vol: **1 mL**

Results of **Northeast RWD-NorthValley-DW**

Client Sample ID: **Northeast RWD-NorthValley-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921049-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 15:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.810	2.09	ng/L	1	11/4/2020 19:47
NMeFOSAA	ND	U	0.743	2.09	ng/L	1	11/4/2020 19:47
PFBS	ND	U	0.486	2.09	ng/L	1	11/4/2020 19:47
PFDA	ND	U	0.476	2.09	ng/L	1	11/4/2020 19:47
PFDoA	ND	U	0.519	2.09	ng/L	1	11/4/2020 19:47
PFHpA	ND	U	0.611	2.09	ng/L	1	11/4/2020 19:47
PFHxA	ND	U	0.649	2.09	ng/L	1	11/4/2020 19:47
PFHxS	ND	U	0.530	2.09	ng/L	1	11/4/2020 19:47
PFNA	ND	U	0.441	2.09	ng/L	1	11/4/2020 19:47
PFOA	ND	U	0.519	2.09	ng/L	1	11/4/2020 19:47
PFOS	ND	U	0.507	2.09	ng/L	1	11/4/2020 19:47
PFTreA	ND	U	0.321	2.09	ng/L	1	11/4/2020 19:47
PFTriA	ND	U	0.413	2.09	ng/L	1	11/4/2020 19:47
PFuNA	ND	U	0.363	2.09	ng/L	1	11/4/2020 19:47
NaDONA	ND	U	0.454	2.09	ng/L	1	11/4/2020 19:47
9Cl-PF3ONS	ND	U	0.438	2.09	ng/L	1	11/4/2020 19:47
11Cl-PF3OUdS	ND	U	0.502	2.09	ng/L	1	11/4/2020 19:47
HFPO-DA (GenX)	ND	U	1.47	2.09	ng/L	1	11/4/2020 19:47
Surrogates							
13C2-PFDA	82.8			70.0-130	%	1	11/4/2020 19:47
13C2-PFHxA	81.7			70.0-130	%	1	11/4/2020 19:47
d5-NEtFOSAA	75.6			70.0-130	%	1	11/4/2020 19:47
13C3-HFPO-DA	82.7			70.0-130	%	1	11/4/2020 19:47

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 19:47**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **239 mL**
Prep Extract Vol: **1 mL**

Results of **Cando-DW**

Client Sample ID: **Cando-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921050-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 14:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.774	2.00	ng/L	1	11/4/2020 20:03
NMeFOSAA	ND	U	0.710	2.00	ng/L	1	11/4/2020 20:03
PFBS	ND	U	0.465	2.00	ng/L	1	11/4/2020 20:03
PFDA	ND	U	0.455	2.00	ng/L	1	11/4/2020 20:03
PFDoA	ND	U	0.496	2.00	ng/L	1	11/4/2020 20:03
PFHpA	ND	U	0.584	2.00	ng/L	1	11/4/2020 20:03
PFHxA	ND	U	0.620	2.00	ng/L	1	11/4/2020 20:03
PFHxS	ND	U	0.507	2.00	ng/L	1	11/4/2020 20:03
PFNA	ND	U	0.422	2.00	ng/L	1	11/4/2020 20:03
PFOA	ND	U	0.496	2.00	ng/L	1	11/4/2020 20:03
PFOS	ND	U	0.485	2.00	ng/L	1	11/4/2020 20:03
PFTreA	ND	U	0.307	2.00	ng/L	1	11/4/2020 20:03
PFTriA	ND	U	0.395	2.00	ng/L	1	11/4/2020 20:03
PFuNA	ND	U	0.347	2.00	ng/L	1	11/4/2020 20:03
NaDONA	ND	U	0.434	2.00	ng/L	1	11/4/2020 20:03
9Cl-PF3ONS	ND	U	0.419	2.00	ng/L	1	11/4/2020 20:03
11Cl-PF3OUdS	ND	U	0.480	2.00	ng/L	1	11/4/2020 20:03
HFPO-DA (GenX)	ND	U	1.41	2.00	ng/L	1	11/4/2020 20:03
Surrogates							
13C2-PFDA	79.7			70.0-130	%	1	11/4/2020 20:03
13C2-PFHxA	78.7			70.0-130	%	1	11/4/2020 20:03
d5-NEtFOSAA	73.0			70.0-130	%	1	11/4/2020 20:03
13C3-HFPO-DA	81.3			70.0-130	%	1	11/4/2020 20:03

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 20:03**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **250 mL**
Prep Extract Vol: **1 mL**

Results of **Northeast RWD-Langdon-DW**

Client Sample ID: **Northeast RWD-Langdon-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921051-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 13:15
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.813	2.10	ng/L	1	11/4/2020 20:20
NMeFOSAA	ND	U	0.746	2.10	ng/L	1	11/4/2020 20:20
PFBS	ND	U	0.488	2.10	ng/L	1	11/4/2020 20:20
PFDA	ND	U	0.478	2.10	ng/L	1	11/4/2020 20:20
PFDoA	ND	U	0.521	2.10	ng/L	1	11/4/2020 20:20
PFHpA	ND	U	0.613	2.10	ng/L	1	11/4/2020 20:20
PFHxA	ND	U	0.651	2.10	ng/L	1	11/4/2020 20:20
PFHxS	ND	U	0.533	2.10	ng/L	1	11/4/2020 20:20
PFNA	ND	U	0.443	2.10	ng/L	1	11/4/2020 20:20
PFOA	ND	U	0.521	2.10	ng/L	1	11/4/2020 20:20
PFOS	ND	U	0.509	2.10	ng/L	1	11/4/2020 20:20
PFTreA	ND	U	0.322	2.10	ng/L	1	11/4/2020 20:20
PFTriA	ND	U	0.415	2.10	ng/L	1	11/4/2020 20:20
PFuNA	ND	U	0.364	2.10	ng/L	1	11/4/2020 20:20
NaDONA	ND	U	0.456	2.10	ng/L	1	11/4/2020 20:20
9Cl-PF3ONS	ND	U	0.440	2.10	ng/L	1	11/4/2020 20:20
11Cl-PF3OUdS	ND	U	0.504	2.10	ng/L	1	11/4/2020 20:20
HFPO-DA (GenX)	ND	U	1.48	2.10	ng/L	1	11/4/2020 20:20
Surrogates							
13C2-PFDA	78.1			70.0-130	%	1	11/4/2020 20:20
13C2-PFHxA	76.9			70.0-130	%	1	11/4/2020 20:20
d5-NEtFOSAA	70.7			70.0-130	%	1	11/4/2020 20:20
13C3-HFPO-DA	76.0			70.0-130	%	1	11/4/2020 20:20

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 20:20**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **238 mL**
Prep Extract Vol: **1 mL**

Results of **Devils Lake-DW**

Client Sample ID: **Devils Lake-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921052-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 11:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.834	2.16	ng/L	1	11/4/2020 20:36
NMeFOSAA	ND	U	0.765	2.16	ng/L	1	11/4/2020 20:36
PFBS	ND	U	0.501	2.16	ng/L	1	11/4/2020 20:36
PFDA	ND	U	0.490	2.16	ng/L	1	11/4/2020 20:36
PFDoA	ND	U	0.534	2.16	ng/L	1	11/4/2020 20:36
PFHpA	ND	U	0.629	2.16	ng/L	1	11/4/2020 20:36
PFHxA	ND	U	0.668	2.16	ng/L	1	11/4/2020 20:36
PFHxS	ND	U	0.546	2.16	ng/L	1	11/4/2020 20:36
PFNA	ND	U	0.455	2.16	ng/L	1	11/4/2020 20:36
PFOA	ND	U	0.534	2.16	ng/L	1	11/4/2020 20:36
PFOS	ND	U	0.523	2.16	ng/L	1	11/4/2020 20:36
PFTreA	ND	U	0.331	2.16	ng/L	1	11/4/2020 20:36
PFTriA	ND	U	0.426	2.16	ng/L	1	11/4/2020 20:36
PFuNA	ND	U	0.374	2.16	ng/L	1	11/4/2020 20:36
NaDONA	ND	U	0.468	2.16	ng/L	1	11/4/2020 20:36
9Cl-PF3ONS	ND	U	0.452	2.16	ng/L	1	11/4/2020 20:36
11Cl-PF3OUdS	ND	U	0.517	2.16	ng/L	1	11/4/2020 20:36
HFPO-DA (GenX)	ND	U	1.52	2.16	ng/L	1	11/4/2020 20:36
Surrogates							
13C2-PFDA	76.4			70.0-130	%	1	11/4/2020 20:36
13C2-PFHxA	77.3			70.0-130	%	1	11/4/2020 20:36
d5-NEtFOSAA	71.6			70.0-130	%	1	11/4/2020 20:36
13C3-HFPO-DA	76.8			70.0-130	%	1	11/4/2020 20:36

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 20:36**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **232 mL**
Prep Extract Vol: **1 mL**

Results of **Cass Rural Water P2-DW**

Client Sample ID: **Cass Rural Water P2-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921053-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 08:45
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.750	1.94	ng/L	1	10/28/2020 17:58
NMeFOSAA	ND	U	0.688	1.94	ng/L	1	10/28/2020 17:58
PFBS	ND	U	0.451	1.94	ng/L	1	10/28/2020 17:58
PFDA	ND	U	0.441	1.94	ng/L	1	10/28/2020 17:58
PFDoA	ND	U	0.481	1.94	ng/L	1	10/28/2020 17:58
PFHpA	ND	U	0.566	1.94	ng/L	1	10/28/2020 17:58
PFHxA	ND	U	0.601	1.94	ng/L	1	10/28/2020 17:58
PFHxS	ND	U	0.491	1.94	ng/L	1	10/28/2020 17:58
PFNA	ND	U	0.409	1.94	ng/L	1	10/28/2020 17:58
PFOA	ND	U	0.481	1.94	ng/L	1	10/28/2020 17:58
PFOS	ND	U	0.470	1.94	ng/L	1	10/28/2020 17:58
PFTreA	ND	U	0.297	1.94	ng/L	1	10/28/2020 17:58
PFTriA	ND	U	0.383	1.94	ng/L	1	10/28/2020 17:58
PFuNA	ND	U	0.336	1.94	ng/L	1	10/28/2020 17:58
NaDONA	ND	U	0.421	1.94	ng/L	1	10/28/2020 17:58
9Cl-PF3ONS	ND	U	0.406	1.94	ng/L	1	10/28/2020 17:58
11Cl-PF3OUdS	ND	U	0.465	1.94	ng/L	1	10/28/2020 17:58
HFPO-DA (GenX)	ND	U	1.36	1.94	ng/L	1	10/28/2020 17:58
Surrogates							
13C2-PFDA	90.4			70.0-130	%	1	10/28/2020 17:58
13C2-PFHxA	97.0			70.0-130	%	1	10/28/2020 17:58
d5-NEtFOSAA	87.3			70.0-130	%	1	10/28/2020 17:58
13C3-HFPO-DA	107			70.0-130	%	1	10/28/2020 17:58

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 17:58**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **258 mL**
Prep Extract Vol: **1 mL**

Results of **Harwood, ND-DW**

Client Sample ID: **Harwood, ND-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921054-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 07:15
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.796	2.06	ng/L	1	10/28/2020 18:14
NMeFOSAA	ND	U	0.730	2.06	ng/L	1	10/28/2020 18:14
PFBS	ND	U	0.478	2.06	ng/L	1	10/28/2020 18:14
PFDA	ND	U	0.468	2.06	ng/L	1	10/28/2020 18:14
PFDoA	ND	U	0.510	2.06	ng/L	1	10/28/2020 18:14
PFHpA	ND	U	0.601	2.06	ng/L	1	10/28/2020 18:14
PFHxA	ND	U	0.638	2.06	ng/L	1	10/28/2020 18:14
PFHxS	ND	U	0.522	2.06	ng/L	1	10/28/2020 18:14
PFNA	ND	U	0.434	2.06	ng/L	1	10/28/2020 18:14
PFOA	ND	U	0.510	2.06	ng/L	1	10/28/2020 18:14
PFOS	ND	U	0.499	2.06	ng/L	1	10/28/2020 18:14
PFTreA	ND	U	0.316	2.06	ng/L	1	10/28/2020 18:14
PFTriA	ND	U	0.406	2.06	ng/L	1	10/28/2020 18:14
PFuNA	ND	U	0.357	2.06	ng/L	1	10/28/2020 18:14
NaDONA	ND	U	0.447	2.06	ng/L	1	10/28/2020 18:14
9Cl-PF3ONS	ND	U	0.431	2.06	ng/L	1	10/28/2020 18:14
11Cl-PF3OUdS	ND	U	0.494	2.06	ng/L	1	10/28/2020 18:14
HFPO-DA (GenX)	ND	U	1.45	2.06	ng/L	1	10/28/2020 18:14
Surrogates							
13C2-PFDA	93.5			70.0-130	%	1	10/28/2020 18:14
13C2-PFHxA	101			70.0-130	%	1	10/28/2020 18:14
d5-NEtFOSAA	88.4			70.0-130	%	1	10/28/2020 18:14
13C3-HFPO-DA	112			70.0-130	%	1	10/28/2020 18:14

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 18:14**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **243 mL**
Prep Extract Vol: **1 mL**

Results of **Lisbon, ND-DW**

Client Sample ID: **Lisbon, ND-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921055-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 12:10
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.790	2.04	ng/L	1	10/28/2020 18:30
NMeFOSAA	ND	U	0.724	2.04	ng/L	1	10/28/2020 18:30
PFBS	ND	U	0.474	2.04	ng/L	1	10/28/2020 18:30
PFDA	ND	U	0.464	2.04	ng/L	1	10/28/2020 18:30
PFDoA	ND	U	0.506	2.04	ng/L	1	10/28/2020 18:30
PFHpA	ND	U	0.596	2.04	ng/L	1	10/28/2020 18:30
PFHxA	ND	U	0.633	2.04	ng/L	1	10/28/2020 18:30
PFHxS	ND	U	0.517	2.04	ng/L	1	10/28/2020 18:30
PFNA	ND	U	0.431	2.04	ng/L	1	10/28/2020 18:30
PFOA	ND	U	0.506	2.04	ng/L	1	10/28/2020 18:30
PFOS	ND	U	0.495	2.04	ng/L	1	10/28/2020 18:30
PFTreA	ND	U	0.313	2.04	ng/L	1	10/28/2020 18:30
PFTriA	ND	U	0.403	2.04	ng/L	1	10/28/2020 18:30
PFuNA	ND	U	0.354	2.04	ng/L	1	10/28/2020 18:30
NaDONA	ND	U	0.443	2.04	ng/L	1	10/28/2020 18:30
9Cl-PF3ONS	ND	U	0.428	2.04	ng/L	1	10/28/2020 18:30
11Cl-PF3OUdS	ND	U	0.490	2.04	ng/L	1	10/28/2020 18:30
HFPO-DA (GenX)	ND	U	1.44	2.04	ng/L	1	10/28/2020 18:30
Surrogates							
13C2-PFDA	95.6			70.0-130	%	1	10/28/2020 18:30
13C2-PFHxA	101			70.0-130	%	1	10/28/2020 18:30
d5-NEtFOSAA	94.4			70.0-130	%	1	10/28/2020 18:30
13C3-HFPO-DA	114			70.0-130	%	1	10/28/2020 18:30

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 18:30**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **245 mL**
Prep Extract Vol: **1 mL**

Results of **Sundale Colony-DW**

Client Sample ID: **Sundale Colony-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921056-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 11:40
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.777	2.01	ng/L	1	10/28/2020 18:46
NMeFOSAA	ND	U	0.713	2.01	ng/L	1	10/28/2020 18:46
PFBS	ND	U	0.467	2.01	ng/L	1	10/28/2020 18:46
PFDA	ND	U	0.457	2.01	ng/L	1	10/28/2020 18:46
PFDoA	ND	U	0.498	2.01	ng/L	1	10/28/2020 18:46
PFHpA	ND	U	0.586	2.01	ng/L	1	10/28/2020 18:46
PFHxA	ND	U	0.622	2.01	ng/L	1	10/28/2020 18:46
PFHxS	ND	U	0.509	2.01	ng/L	1	10/28/2020 18:46
PFNA	ND	U	0.424	2.01	ng/L	1	10/28/2020 18:46
PFOA	ND	U	0.498	2.01	ng/L	1	10/28/2020 18:46
PFOS	ND	U	0.487	2.01	ng/L	1	10/28/2020 18:46
PFTreA	ND	U	0.308	2.01	ng/L	1	10/28/2020 18:46
PFTriA	ND	U	0.397	2.01	ng/L	1	10/28/2020 18:46
PFuNA	ND	U	0.348	2.01	ng/L	1	10/28/2020 18:46
NaDONA	ND	U	0.436	2.01	ng/L	1	10/28/2020 18:46
9Cl-PF3ONS	ND	U	0.421	2.01	ng/L	1	10/28/2020 18:46
11Cl-PF3OUdS	ND	U	0.482	2.01	ng/L	1	10/28/2020 18:46
HFPO-DA (GenX)	ND	U	1.41	2.01	ng/L	1	10/28/2020 18:46
Surrogates							
13C2-PFDA	86.0			70.0-130	%	1	10/28/2020 18:46
13C2-PFHxA	90.7			70.0-130	%	1	10/28/2020 18:46
d5-NEtFOSAA	85.5			70.0-130	%	1	10/28/2020 18:46
13C3-HFPO-DA	106			70.0-130	%	1	10/28/2020 18:46

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 18:46**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **249 mL**
Prep Extract Vol: **1 mL**

Results of **Wahpeton, ND-DW**

Client Sample ID: **Wahpeton, ND-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921057-A
Lab Project ID: 32001921

Collection Date: 10/14/2020 09:55
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.765	1.98	ng/L	1	10/28/2020 19:03
NMeFOSAA	ND	U	0.702	1.98	ng/L	1	10/28/2020 19:03
PFBS	ND	U	0.459	1.98	ng/L	1	10/28/2020 19:03
PFDA	ND	U	0.450	1.98	ng/L	1	10/28/2020 19:03
PFDoA	ND	U	0.490	1.98	ng/L	1	10/28/2020 19:03
PFHpA	ND	U	0.577	1.98	ng/L	1	10/28/2020 19:03
PFHxA	ND	U	0.613	1.98	ng/L	1	10/28/2020 19:03
PFHxS	ND	U	0.501	1.98	ng/L	1	10/28/2020 19:03
PFNA	ND	U	0.417	1.98	ng/L	1	10/28/2020 19:03
PFOA	ND	U	0.490	1.98	ng/L	1	10/28/2020 19:03
PFOS	ND	U	0.479	1.98	ng/L	1	10/28/2020 19:03
PFTreA	ND	U	0.303	1.98	ng/L	1	10/28/2020 19:03
PFTriA	ND	U	0.390	1.98	ng/L	1	10/28/2020 19:03
PFuNA	ND	U	0.343	1.98	ng/L	1	10/28/2020 19:03
NaDONA	ND	U	0.429	1.98	ng/L	1	10/28/2020 19:03
9Cl-PF3ONS	ND	U	0.414	1.98	ng/L	1	10/28/2020 19:03
11Cl-PF3OUdS	ND	U	0.474	1.98	ng/L	1	10/28/2020 19:03
HFPO-DA (GenX)	ND	U	1.39	1.98	ng/L	1	10/28/2020 19:03
Surrogates							
13C2-PFDA	79.7			70.0-130	%	1	10/28/2020 19:03
13C2-PFHxA	85.5			70.0-130	%	1	10/28/2020 19:03
d5-NEtFOSAA	79.9			70.0-130	%	1	10/28/2020 19:03
13C3-HFPO-DA	101			70.0-130	%	1	10/28/2020 19:03

Batch Information

Analytical Batch: **XLC1612**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **10/28/2020 19:03**

Prep Batch: **HXX2636**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/27/2020 18:59**
Prep Initial Wt./Vol.: **253 mL**
Prep Extract Vol: **1 mL**

Results of **Hillsboro, ND-DW**

Client Sample ID: **Hillsboro, ND-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921058-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 16:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.753	1.95	ng/L	1	11/4/2020 20:52
NMeFOSAA	ND	U	0.691	1.95	ng/L	1	11/4/2020 20:52
PFBS	ND	U	0.452	1.95	ng/L	1	11/4/2020 20:52
PFDA	ND	U	0.443	1.95	ng/L	1	11/4/2020 20:52
PFDoA	ND	U	0.482	1.95	ng/L	1	11/4/2020 20:52
PFHpA	ND	U	0.568	1.95	ng/L	1	11/4/2020 20:52
PFHxA	ND	U	0.603	1.95	ng/L	1	11/4/2020 20:52
PFHxS	ND	U	0.493	1.95	ng/L	1	11/4/2020 20:52
PFNA	ND	U	0.411	1.95	ng/L	1	11/4/2020 20:52
PFOA	ND	U	0.482	1.95	ng/L	1	11/4/2020 20:52
PFOS	ND	U	0.472	1.95	ng/L	1	11/4/2020 20:52
PFTreA	ND	U	0.299	1.95	ng/L	1	11/4/2020 20:52
PFTriA	ND	U	0.384	1.95	ng/L	1	11/4/2020 20:52
PFuNA	ND	U	0.338	1.95	ng/L	1	11/4/2020 20:52
NaDONA	ND	U	0.422	1.95	ng/L	1	11/4/2020 20:52
9Cl-PF3ONS	ND	U	0.408	1.95	ng/L	1	11/4/2020 20:52
11Cl-PF3OUdS	ND	U	0.467	1.95	ng/L	1	11/4/2020 20:52
HFPO-DA (GenX)	ND	U	1.37	1.95	ng/L	1	11/4/2020 20:52
Surrogates							
13C2-PFDA	72.4			70.0-130	%	1	11/4/2020 20:52
13C2-PFHxA	74.9			70.0-130	%	1	11/4/2020 20:52
d5-NEtFOSAA	66.3*			70.0-130	%	1	11/4/2020 20:52
13C3-HFPO-DA	75.5			70.0-130	%	1	11/4/2020 20:52

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 20:52**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **257 mL**
Prep Extract Vol: **1 mL**

Results of **Duplicate-DW-Orange**

Client Sample ID: **Duplicate-DW-Orange**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921059-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 16:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.756	1.95	ng/L	1	11/4/2020 21:09
NMeFOSAA	ND	U	0.693	1.95	ng/L	1	11/4/2020 21:09
PFBS	ND	U	0.454	1.95	ng/L	1	11/4/2020 21:09
PFDA	ND	U	0.444	1.95	ng/L	1	11/4/2020 21:09
PFDoA	ND	U	0.484	1.95	ng/L	1	11/4/2020 21:09
PFHpA	ND	U	0.570	1.95	ng/L	1	11/4/2020 21:09
PFHxA	ND	U	0.605	1.95	ng/L	1	11/4/2020 21:09
PFHxS	ND	U	0.495	1.95	ng/L	1	11/4/2020 21:09
PFNA	ND	U	0.412	1.95	ng/L	1	11/4/2020 21:09
PFOA	ND	U	0.484	1.95	ng/L	1	11/4/2020 21:09
PFOS	ND	U	0.474	1.95	ng/L	1	11/4/2020 21:09
PFTreA	ND	U	0.300	1.95	ng/L	1	11/4/2020 21:09
PFTriA	ND	U	0.386	1.95	ng/L	1	11/4/2020 21:09
PFuNA	ND	U	0.339	1.95	ng/L	1	11/4/2020 21:09
NaDONA	ND	U	0.424	1.95	ng/L	1	11/4/2020 21:09
9Cl-PF3ONS	ND	U	0.409	1.95	ng/L	1	11/4/2020 21:09
11Cl-PF3OUdS	ND	U	0.469	1.95	ng/L	1	11/4/2020 21:09
HFPO-DA (GenX)	ND	U	1.38	1.95	ng/L	1	11/4/2020 21:09
Surrogates							
13C2-PFDA	71.9			70.0-130	%	1	11/4/2020 21:09
13C2-PFHxA	71.5			70.0-130	%	1	11/4/2020 21:09
d5-NEtFOSAA	67.0*			70.0-130	%	1	11/4/2020 21:09
13C3-HFPO-DA	74.0			70.0-130	%	1	11/4/2020 21:09

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 21:09**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **256 mL**
Prep Extract Vol: **1 mL**

Results of **Barnes RW-DW**

Client Sample ID: **Barnes RW-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921060-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 11:05
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.774	2.00	ng/L	1	11/4/2020 21:25
NMeFOSAA	ND	U	0.710	2.00	ng/L	1	11/4/2020 21:25
PFBS	ND	U	0.465	2.00	ng/L	1	11/4/2020 21:25
PFDA	ND	U	0.455	2.00	ng/L	1	11/4/2020 21:25
PFDoA	ND	U	0.496	2.00	ng/L	1	11/4/2020 21:25
PFHpA	ND	U	0.584	2.00	ng/L	1	11/4/2020 21:25
PFHxA	ND	U	0.620	2.00	ng/L	1	11/4/2020 21:25
PFHxS	ND	U	0.507	2.00	ng/L	1	11/4/2020 21:25
PFNA	ND	U	0.422	2.00	ng/L	1	11/4/2020 21:25
PFOA	ND	U	0.496	2.00	ng/L	1	11/4/2020 21:25
PFOS	ND	U	0.485	2.00	ng/L	1	11/4/2020 21:25
PFTreA	ND	U	0.307	2.00	ng/L	1	11/4/2020 21:25
PFTriA	ND	U	0.395	2.00	ng/L	1	11/4/2020 21:25
PFuNA	ND	U	0.347	2.00	ng/L	1	11/4/2020 21:25
NaDONA	ND	U	0.434	2.00	ng/L	1	11/4/2020 21:25
9Cl-PF3ONS	ND	U	0.419	2.00	ng/L	1	11/4/2020 21:25
11Cl-PF3OUdS	ND	U	0.480	2.00	ng/L	1	11/4/2020 21:25
HFPO-DA (GenX)	ND	U	1.41	2.00	ng/L	1	11/4/2020 21:25
Surrogates							
13C2-PFDA	76.4			70.0-130	%	1	11/4/2020 21:25
13C2-PFHxA	78.7			70.0-130	%	1	11/4/2020 21:25
d5-NEtFOSAA	70.9			70.0-130	%	1	11/4/2020 21:25
13C3-HFPO-DA	81.1			70.0-130	%	1	11/4/2020 21:25

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 21:25**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **250 mL**
Prep Extract Vol: **1 mL**

Results of **Agassiz RW-DW**

Client Sample ID: **Agassiz RW-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921061-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 15:00
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.783	2.02	ng/L	1	11/4/2020 21:42
NMeFOSAA	ND	U	0.719	2.02	ng/L	1	11/4/2020 21:42
PFBS	ND	U	0.471	2.02	ng/L	1	11/4/2020 21:42
PFDA	ND	U	0.461	2.02	ng/L	1	11/4/2020 21:42
PFDoA	ND	U	0.502	2.02	ng/L	1	11/4/2020 21:42
PFHpA	ND	U	0.591	2.02	ng/L	1	11/4/2020 21:42
PFHxA	ND	U	0.628	2.02	ng/L	1	11/4/2020 21:42
PFHxS	ND	U	0.513	2.02	ng/L	1	11/4/2020 21:42
PFNA	ND	U	0.427	2.02	ng/L	1	11/4/2020 21:42
PFOA	ND	U	0.502	2.02	ng/L	1	11/4/2020 21:42
PFOS	ND	U	0.491	2.02	ng/L	1	11/4/2020 21:42
PFTreA	ND	U	0.311	2.02	ng/L	1	11/4/2020 21:42
PFTriA	ND	U	0.400	2.02	ng/L	1	11/4/2020 21:42
PFuNA	ND	U	0.351	2.02	ng/L	1	11/4/2020 21:42
NaDONA	ND	U	0.439	2.02	ng/L	1	11/4/2020 21:42
9Cl-PF3ONS	ND	U	0.424	2.02	ng/L	1	11/4/2020 21:42
11Cl-PF3OUdS	ND	U	0.486	2.02	ng/L	1	11/4/2020 21:42
HFPO-DA (GenX)	ND	U	1.43	2.02	ng/L	1	11/4/2020 21:42
Surrogates							
13C2-PFDA	73.8			70.0-130	%	1	11/4/2020 21:42
13C2-PFHxA	74.4			70.0-130	%	1	11/4/2020 21:42
d5-NEtFOSAA	68.0*			70.0-130	%	1	11/4/2020 21:42
13C3-HFPO-DA	74.0			70.0-130	%	1	11/4/2020 21:42

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 21:42**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **247 mL**
Prep Extract Vol: **1 mL**

Results of **Hope, ND-DW**

Client Sample ID: **Hope, ND-DW**
Client Project ID: **PFAS Study**
Lab Sample ID: 32001921062-A
Lab Project ID: 32001921

Collection Date: 10/13/2020 12:30
Received Date: 10/19/2020 09:10
Matrix: Drinking Water

Results by **EPA 537.1**

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
NEtFOSAA	ND	U	0.793	2.05	ng/L	1	11/4/2020 21:58
NMeFOSAA	ND	U	0.727	2.05	ng/L	1	11/4/2020 21:58
PFBS	ND	U	0.476	2.05	ng/L	1	11/4/2020 21:58
PFDA	ND	U	0.466	2.05	ng/L	1	11/4/2020 21:58
PFDoA	ND	U	0.508	2.05	ng/L	1	11/4/2020 21:58
PFHpA	ND	U	0.598	2.05	ng/L	1	11/4/2020 21:58
PFHxA	ND	U	0.635	2.05	ng/L	1	11/4/2020 21:58
PFHxS	ND	U	0.519	2.05	ng/L	1	11/4/2020 21:58
PFNA	ND	U	0.432	2.05	ng/L	1	11/4/2020 21:58
PFOA	ND	U	0.508	2.05	ng/L	1	11/4/2020 21:58
PFOS	ND	U	0.497	2.05	ng/L	1	11/4/2020 21:58
PFTreA	ND	U	0.315	2.05	ng/L	1	11/4/2020 21:58
PFTriA	ND	U	0.405	2.05	ng/L	1	11/4/2020 21:58
PFuNA	ND	U	0.356	2.05	ng/L	1	11/4/2020 21:58
NaDONA	ND	U	0.445	2.05	ng/L	1	11/4/2020 21:58
9Cl-PF3ONS	ND	U	0.429	2.05	ng/L	1	11/4/2020 21:58
11Cl-PF3OUdS	ND	U	0.492	2.05	ng/L	1	11/4/2020 21:58
HFPO-DA (GenX)	ND	U	1.44	2.05	ng/L	1	11/4/2020 21:58
Surrogates							
13C2-PFDA	71.1			70.0-130	%	1	11/4/2020 21:58
13C2-PFHxA	70.4			70.0-130	%	1	11/4/2020 21:58
d5-NEtFOSAA	64.0*			70.0-130	%	1	11/4/2020 21:58
13C3-HFPO-DA	72.2			70.0-130	%	1	11/4/2020 21:58

Batch Information

Analytical Batch: **XLC1614**
Analytical Method: **EPA 537.1**
Instrument: **TQS2**
Analyst: **FNS**
Analytical Date/Time: **11/04/2020 21:58**

Prep Batch: **HXX2635**
Prep Method: **EPA 537.1 Prep**
Prep Date/Time: **10/26/2020 20:26**
Prep Initial Wt./Vol.: **244 mL**
Prep Extract Vol: **1 mL**