eurofins | Environment Testing

# ANALYTICAL REPORT

## PREPARED FOR

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Generated 10/30/2024 12:14:42 AM

## JOB DESCRIPTION

533 Analysis of Drinking Water

## JOB NUMBER

410-191218-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

See page two for job notes and contact information.

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization

Generated
10/30/2024 12:14:42 AM

Authorized for release by
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## Compliance Statement

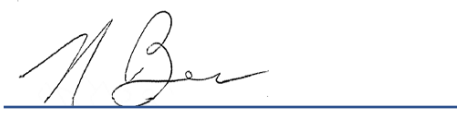
Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.



WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



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## Qualifiers

### LCMS

| Qualifier | Qualifier Description |
|---|---|
| *- | LCS and/or LCSD is outside acceptance limits, low biased. |
| *1 | LCS/LCSD RPD exceeds control limits. |
| *5- | Isotope dilution analyte is outside acceptance limits, low biased. |
| ^c | CCV Recovery is outside acceptance limits. |
| cn | Refer to Case Narrative for further detail |
| D | The reported value is from a dilution. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| M | Manual integrated compound. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ☼ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 410-191218-1 Eurofins Lancaster Laboratories Environment

**Job Narrative**
**410-191218-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

**Receipt**
The samples were received on 10/5/2024 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1°C and 2.5°C.

**Receipt Exceptions**
The container count for the following sample did not match what was listed on the Chain-of-Custody (COC): W-MN-RIPL-019 (410-191218-17).
The laboratory received 6 total containers, while the COC lists 4 total containers. QC-2 is the batch QC bottles for this samples.

The container count for the following sample did not match what was listed on the Chain-of-Custody (COC): W-MN-RIPL-005 (410-191218-5).
The laboratory received 6 total containers, while the COC lists 4 total containers. QC-1 is the batch QC bottles for this samples.

**PFAS**
Method 533_DOD5: The recoveries for Perfluorooctanoic acid (PFOA) in the laboratory control spike samples associated with FD-01 (410-191218-23) are below the QC acceptance limit. This sample was re-extracted within the required holding time and the recoveries for the target analyte in the laboratory control spike samples are within the QC acceptance limit. The recovery for a labeled isotope in the re-extracted sample is below the QC acceptance limit.

Method 533_DOD5: The recovery for the labeled isotope(s) 13C9 PFNA in the method blank associated with the following sample: FD-01 (410-191218-23) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted within the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank is within the QC acceptance limits.The recovery for a labeled isotope in the re-extracted sample is below the QC acceptance limit.

Method 533_DOD5: The recovery for target analyte Perfluoropentanoic acid (PFPeA) is outside the QC acceptance limits in the opening continuing calibration verification standard. Since the result is high and target Perfluoropentanoic acid (PFPeA) is not detected in the following sample: FD-01 (410-191218-23), the data is reported

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

# Detection Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Client Sample ID: W-MN-RIPL-001 — Lab Sample ID: 410-191218-1

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 8.2 | | 2.5 | 0.82 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.1 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 2.4 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.51 | J M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 2.3 | | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 35 | | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 4.4 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanesulfonic acid (PFPeS) | 4.4 | | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-002 — Lab Sample ID: 410-191218-2

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 2.9 | M | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-003 — Lab Sample ID: 410-191218-3

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 4.7 | M | 2.6 | 0.87 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.5 | M | 1.7 | 0.43 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 3.2 | | 1.7 | 0.43 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.67 | J M | 1.7 | 0.43 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.67 | J | 1.7 | 0.43 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.6 | J M | 1.7 | 0.43 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-004 — Lab Sample ID: 410-191218-4

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 5.3 | M | 2.6 | 0.88 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.8 | M | 1.8 | 0.44 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 3.1 | M | 1.8 | 0.44 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.70 | J M | 1.8 | 0.44 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.65 | J | 1.8 | 0.44 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.8 | | 1.8 | 0.44 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-005 — Lab Sample ID: 410-191218-5

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 5.3 | M | 2.5 | 0.82 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.1 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 2.9 | | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.53 | J M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.66 | J | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 2.7 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-007 — Lab Sample ID: 410-191218-6

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 3.5 | M | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-008 — Lab Sample ID: 410-191218-7

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 2.7 | M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Client Sample ID: W-MN-RIPL-009 — Lab Sample ID: 410-191218-8

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 2.6 | J M | 2.7 | 0.91 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-010 — Lab Sample ID: 410-191218-9

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 26 | | 2.5 | 0.82 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-011 — Lab Sample ID: 410-191218-10

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 0.58 | J | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-012 — Lab Sample ID: 410-191218-11

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Hexafluoropropylene oxide dimer acid (HFPO DA) | 0.48 | J M | 1.6 | 0.41 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-013 — Lab Sample ID: 410-191218-12

No Detections.

## Client Sample ID: W-MN-RIPL-014 — Lab Sample ID: 410-191218-13

No Detections.

## Client Sample ID: W-MN-RIPL-015 — Lab Sample ID: 410-191218-14

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 0.82 | J M | 1.8 | 0.46 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-017 — Lab Sample ID: 410-191218-15

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 1.1 | J M | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: W-MN-RIPL-018 — Lab Sample ID: 410-191218-16

No Detections.

## Client Sample ID: W-MN-RIPL-019 — Lab Sample ID: 410-191218-17

No Detections.

## Client Sample ID: W-MN-RIPL-020 — Lab Sample ID: 410-191218-18

No Detections.

## Client Sample ID: W-MN-RIPL-021 — Lab Sample ID: 410-191218-19

No Detections.

## Client Sample ID: W-MN-RIPL-022 — Lab Sample ID: 410-191218-20

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 3.4 | M | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Client Sample ID: FB-01 — Lab Sample ID: 410-191218-21

No Detections.

## Client Sample ID: FB-02 — Lab Sample ID: 410-191218-22

No Detections.

## Client Sample ID: FD-01 — Lab Sample ID: 410-191218-23

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 3.9 | | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: Pine City-01 — Lab Sample ID: 410-191218-24

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 4.3 | M | 2.5 | 0.83 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 1.9 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 4.6 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 1.3 | J | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 6.6 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.6 | J M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.2 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |

## Client Sample ID: FB-03 — Lab Sample ID: 410-191218-25

No Detections.

## Client Sample ID: Otsego-01 — Lab Sample ID: 410-191218-26

No Detections.

## Client Sample ID: Hastings-01 — Lab Sample ID: 410-191218-27

| Analyte | Result | Qualifier | LOQ | DL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 10 | | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 4.1 | | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 1.1 | J | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanoic acid (PFOA) | 17 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 2.0 | | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 2.3 | | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.2 | M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoropentanesulfonic acid (PFPeS) | 0.43 | J M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 0.79 | J M | 1.7 | 0.42 | ng/L | 1 | | EPA 533 | Total/NA |
| Perfluorobutanoic acid (PFBA) - DL | 140 | D M | 25 | 8.5 | ng/L | 10 | | EPA 533 | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

**Client Sample ID: W-MN-RIPL-001**
**Lab Sample ID: 410-191218-1**
**Date Collected: 10/02/24 08:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **8.2** | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **4.1** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **2.4** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.51** | **J M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **2.3** | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **35** | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **4.4** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| **Perfluoropentanesulfonic acid (PFPeS)** | **4.4** | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 18:26 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C4 PFBA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C3 PFBS* | *105* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C5 PFPeA* | *117* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C5 PFHxA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C8 PFOA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C9 PFNA* | *92* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C6 PFDA* | *89* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C7 PFUnA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C2 PFDoA* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C8 PFOS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |

## Client Sample ID: W-MN-RIPL-001
**Lab Sample ID: 410-191218-1**

**Date Collected: 10/02/24 08:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *M2-4:2 FTS* | *111* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *M2-6:2 FTS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *M2-8:2 FTS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |
| *13C3 PFHxS* | *55* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:26* | *1* |

## Client Sample ID: W-MN-RIPL-002
**Lab Sample ID: 410-191218-2**

**Date Collected: 10/02/24 09:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **2.9** | **M** | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | M | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 18:53 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:53* | *1* |
| *13C4 PFBA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:53* | *1* |
| *13C3 PFBS* | *105* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:53* | *1* |
| *13C5 PFPeA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 18:53* | *1* |

**Client Sample ID: W-MN-RIPL-002**
**Lab Sample ID: 410-191218-2**
**Date Collected: 10/02/24 09:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C5 PFHxA | 96 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C4 PFHpA | 94 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C8 PFOA | 92 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C9 PFNA | 97 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C6 PFDA | 93 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C7 PFUnA | 92 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C2 PFDoA | 95 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C8 PFOS | 96 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| M2-4:2 FTS | 116 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| M2-6:2 FTS | 97 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| M2-8:2 FTS | 99 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |
| 13C3 PFHxS | 96 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 18:53 | 1 |

**Client Sample ID: W-MN-RIPL-003**
**Lab Sample ID: 410-191218-3**
**Date Collected: 10/02/24 08:58**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **4.7** | **M** | 2.6 | 0.87 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **4.5** | **M** | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **3.2** | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | M | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.67** | **J M** | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.67** | **J** | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **1.6** | **J M** | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.6 | 0.87 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |

## Client Sample ID: W-MN-RIPL-003

**Lab Sample ID: 410-191218-3**

**Date Collected: 10/02/24 08:58**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.43 | ng/L | | 10/22/24 08:46 | 10/26/24 19:06 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C4 PFBA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C3 PFBS* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C5 PFPeA* | *112* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C5 PFHxA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C4 PFHpA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C8 PFOA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C9 PFNA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C6 PFDA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C7 PFUnA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C2 PFDoA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C8 PFOS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *M2-4:2 FTS* | *111* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *M2-6:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *M2-8:2 FTS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |
| *13C3 PFHxS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:06* | *1* |

## Client Sample ID: W-MN-RIPL-004

**Lab Sample ID: 410-191218-4**

**Date Collected: 10/02/24 08:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **5.3** | **M** | 2.6 | 0.88 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **4.8** | **M** | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **3.1** | **M** | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.70** | **J M** | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.65** | **J** | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **1.8** | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | M | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |

## Client Sample ID: W-MN-RIPL-004

**Lab Sample ID: 410-191218-4**

**Date Collected: 10/02/24 08:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 11Cl-PF3OUdS | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.8 | | 2.6 | 0.88 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.8 | 0.44 | ng/L | | 10/22/24 08:46 | 10/26/24 19:20 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C4 PFBA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C3 PFBS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C5 PFPeA* | *110* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C5 PFHxA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C8 PFOA* | *95* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C9 PFNA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C6 PFDA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C7 PFUnA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C2 PFDoA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C8 PFOS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *M2-4:2 FTS* | *106* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *M2-6:2 FTS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *M2-8:2 FTS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |
| *13C3 PFHxS* | *102* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:20* | *1* |

## Client Sample ID: W-MN-RIPL-005

**Lab Sample ID: 410-191218-5**

**Date Collected: 10/02/24 08:35**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **5.3** | **M** | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **4.1** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **2.9** | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.53** | **J M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.66** | **J** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |

**Client Sample ID: W-MN-RIPL-005**
**Lab Sample ID: 410-191218-5**
**Date Collected: 10/02/24 08:35**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanesulfonic acid (PFHxS)** | **2.7** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 19:33 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C4 PFBA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C3 PFBS* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C5 PFPeA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C5 PFHxA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C4 PFHpA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C8 PFOA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C9 PFNA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C6 PFDA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C7 PFUnA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C2 PFDoA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C8 PFOS* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *M2-4:2 FTS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *M2-6:2 FTS* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *M2-8:2 FTS* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |
| *13C3 PFHxS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:33* | *1* |

**Client Sample ID: W-MN-RIPL-007**
**Lab Sample ID: 410-191218-6**
**Date Collected: 10/02/24 14:02**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **3.5** | **M** | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

**Client Sample ID: W-MN-RIPL-007**
**Lab Sample ID: 410-191218-6**
**Date Collected: 10/02/24 14:02**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 19:47 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *89* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C4 PFBA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C3 PFBS* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C5 PFPeA* | *111* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C5 PFHxA* | *88* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C4 PFHpA* | *87* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C8 PFOA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C9 PFNA* | *96* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C6 PFDA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C7 PFUnA* | *92* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C2 PFDoA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *13C8 PFOS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *M2-4:2 FTS* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *M2-6:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |
| *M2-8:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 19:47* | *1* |

## Client Sample ID: W-MN-RIPL-007
**Lab Sample ID: 410-191218-6**

**Date Collected: 10/02/24 14:02**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C3 PFHxS | 97 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 19:47 | 1 |

## Client Sample ID: W-MN-RIPL-008
**Lab Sample ID: 410-191218-7**

**Date Collected: 10/02/24 13:40**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.81 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **2.7** | **M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.81 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:00 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C3 HFPO-DA | 101 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C4 PFBA | 100 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C3 PFBS | 108 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C5 PFPeA | 110 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C5 PFHxA | 104 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C4 PFHpA | 105 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |

## Client Sample ID: W-MN-RIPL-008

**Lab Sample ID: 410-191218-7**

**Date Collected: 10/02/24 13:40**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C8 PFOA | 101 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C9 PFNA | 106 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C6 PFDA | 99 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C7 PFUnA | 96 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C2 PFDoA | 98 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C8 PFOS | 100 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| M2-4:2 FTS | 104 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| M2-6:2 FTS | 101 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| M2-8:2 FTS | 110 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |
| 13C3 PFHxS | 105 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 20:00 | 1 |

## Client Sample ID: W-MN-RIPL-009

**Lab Sample ID: 410-191218-8**

**Date Collected: 10/02/24 13:13**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **2.6** | **J M** | 2.7 | 0.91 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorononanoic acid (PFNA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 11Cl-PF3OUdS | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.8 | | 2.7 | 0.91 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |

## Client Sample ID: W-MN-RIPL-009

**Lab Sample ID: 410-191218-8**

**Date Collected: 10/02/24 13:13**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 20:14 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C4 PFBA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C3 PFBS* | *107* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C5 PFPeA* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C5 PFHxA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C4 PFHpA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C8 PFOA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C9 PFNA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C6 PFDA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C7 PFUnA* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C2 PFDoA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C8 PFOS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *M2-4:2 FTS* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *M2-6:2 FTS* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *M2-8:2 FTS* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |
| *13C3 PFHxS* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:14* | *1* |

## Client Sample ID: W-MN-RIPL-010

**Lab Sample ID: 410-191218-9**

**Date Collected: 10/02/24 12:50**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **26** | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | M | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |

## Client Sample ID: W-MN-RIPL-010

**Lab Sample ID: 410-191218-9**

**Date Collected: 10/02/24 12:50**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:27 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C4 PFBA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C3 PFBS* | *110* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C5 PFPeA* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C5 PFHxA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C8 PFOA* | *93* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C9 PFNA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C6 PFDA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C7 PFUnA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C2 PFDoA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C8 PFOS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *M2-4:2 FTS* | *107* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *M2-6:2 FTS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *M2-8:2 FTS* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |
| *13C3 PFHxS* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:27* | *1* |

## Client Sample ID: W-MN-RIPL-011

**Lab Sample ID: 410-191218-10**

**Date Collected: 10/02/24 11:45**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.81 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **0.58** | **J** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |

**Client Sample ID: W-MN-RIPL-011**
**Lab Sample ID: 410-191218-10**
**Date Collected: 10/02/24 11:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.81 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 20:41 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *87* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C4 PFBA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C3 PFBS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C5 PFPeA* | *112* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C5 PFHxA* | *88* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C4 PFHpA* | *87* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C8 PFOA* | *88* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C9 PFNA* | *90* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C6 PFDA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C7 PFUnA* | *88* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C2 PFDoA* | *87* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C8 PFOS* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *M2-4:2 FTS* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *M2-6:2 FTS* | *89* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *M2-8:2 FTS* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |
| *13C3 PFHxS* | *96* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 20:41* | *1* |

**Client Sample ID: W-MN-RIPL-012**
**Lab Sample ID: 410-191218-11**
**Date Collected: 10/02/24 14:50**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

**Client Sample ID: W-MN-RIPL-012**
**Lab Sample ID: 410-191218-11**
**Date Collected: 10/02/24 14:50**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| **Hexafluoropropylene oxide dimer acid (HFPO DA)** | **0.48** | **J M** | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:08 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C4 PFBA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C3 PFBS* | *107* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C5 PFPeA* | *121* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C5 PFHxA* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C4 PFHpA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C8 PFOA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C9 PFNA* | *100* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C6 PFDA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C7 PFUnA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C2 PFDoA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C8 PFOS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *M2-4:2 FTS* | *109* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *M2-6:2 FTS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *M2-8:2 FTS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |
| *13C3 PFHxS* | *103* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:08* | *1* |

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

**Client Sample ID: W-MN-RIPL-013**
**Lab Sample ID: 410-191218-12**
**Date Collected: 10/02/24 11:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:35 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C4 PFBA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C3 PFBS* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C5 PFPeA* | *115* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C5 PFHxA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C4 PFHpA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C8 PFOA* | *98* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C9 PFNA* | *98* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C6 PFDA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C7 PFUnA* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C2 PFDoA* | *90* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C8 PFOS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *M2-4:2 FTS* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *M2-6:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |

## Client Sample ID: W-MN-RIPL-013

**Lab Sample ID: 410-191218-12**

**Date Collected: 10/02/24 11:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *M2-8:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |
| *13C3 PFHxS* | *98* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:35* | *1* |

## Client Sample ID: W-MN-RIPL-014

**Lab Sample ID: 410-191218-13**

**Date Collected: 10/02/24 11:15**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 21:48 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |
| *13C4 PFBA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |
| *13C3 PFBS* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |
| *13C5 PFPeA* | *116* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |
| *13C5 PFHxA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 21:48* | *1* |

## Client Sample ID: W-MN-RIPL-014

**Lab Sample ID: 410-191218-13**

**Date Collected: 10/02/24 11:15**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C8 PFOA | 101 | M | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C9 PFNA | 103 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C6 PFDA | 98 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C7 PFUnA | 99 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C2 PFDoA | 98 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C8 PFOS | 101 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| M2-4:2 FTS | 96 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| M2-6:2 FTS | 101 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| M2-8:2 FTS | 98 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |
| 13C3 PFHxS | 103 | | 50 - 200 | 10/22/24 08:46 | 10/26/24 21:48 | 1 |

## Client Sample ID: W-MN-RIPL-015

**Lab Sample ID: 410-191218-14**

**Date Collected: 10/02/24 11:05**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.8 | | 2.8 | 0.92 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **0.82** | **J M** | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorononanoic acid (PFNA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 11Cl-PF3OUdS | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.8 | | 2.8 | 0.92 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |

## Client Sample ID: W-MN-RIPL-015

**Lab Sample ID: 410-191218-14**

**Date Collected: 10/02/24 11:05**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 08:46 | 10/26/24 22:02 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C4 PFBA* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C3 PFBS* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C5 PFPeA* | *119* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C5 PFHxA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C4 PFHpA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C8 PFOA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C9 PFNA* | *100* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C6 PFDA* | *94* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C7 PFUnA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C2 PFDoA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C8 PFOS* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *M2-4:2 FTS* | *117* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *M2-6:2 FTS* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *M2-8:2 FTS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |
| *13C3 PFHxS* | *105* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:02* | *1* |

## Client Sample ID: W-MN-RIPL-017

**Lab Sample ID: 410-191218-15**

**Date Collected: 10/02/24 09:45**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **1.1** | **J M** | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |

**Client Sample ID: W-MN-RIPL-017**
**Lab Sample ID: 410-191218-15**
**Date Collected: 10/02/24 09:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 08:46 | 10/26/24 22:15 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C4 PFBA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C3 PFBS* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C5 PFPeA* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C5 PFHxA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C4 PFHpA* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C8 PFOA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C9 PFNA* | *98* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C6 PFDA* | *93* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C7 PFUnA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C2 PFDoA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C8 PFOS* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *M2-4:2 FTS* | *105* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *M2-6:2 FTS* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *M2-8:2 FTS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |
| *13C3 PFHxS* | *105* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:15* | *1* |

**Client Sample ID: W-MN-RIPL-018**
**Lab Sample ID: 410-191218-16**
**Date Collected: 10/02/24 09:55**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |

**Client Sample ID: W-MN-RIPL-018**
**Lab Sample ID: 410-191218-16**
**Date Collected: 10/02/24 09:55**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:29 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C4 PFBA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C3 PFBS* | *108* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C5 PFPeA* | *110* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C5 PFHxA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C4 PFHpA* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C8 PFOA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C9 PFNA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C6 PFDA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C7 PFUnA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C2 PFDoA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C8 PFOS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *M2-4:2 FTS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *M2-6:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *M2-8:2 FTS* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |
| *13C3 PFHxS* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:29* | *1* |

**Client Sample ID: W-MN-RIPL-019**
**Lab Sample ID: 410-191218-17**
**Date Collected: 10/02/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |

**Client Sample ID: W-MN-RIPL-019**
**Lab Sample ID: 410-191218-17**
**Date Collected: 10/02/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 08:46 | 10/26/24 22:42 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C4 PFBA* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C3 PFBS* | *113* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C5 PFPeA* | *114* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C5 PFHxA* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C8 PFOA* | *99* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C9 PFNA* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C6 PFDA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C7 PFUnA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C2 PFDoA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C8 PFOS* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *M2-4:2 FTS* | *110* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *M2-6:2 FTS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *M2-8:2 FTS* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |
| *13C3 PFHxS* | *106* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:42* | *1* |

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

**Client Sample ID: W-MN-RIPL-020**
**Lab Sample ID: 410-191218-18**
**Date Collected: 10/02/24 10:15**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 08:46 | 10/26/24 22:56 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C4 PFBA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C3 PFBS* | *111* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C5 PFPeA* | *104* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C5 PFHxA* | *101* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C4 PFHpA* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C8 PFOA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C9 PFNA* | *103* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C6 PFDA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C7 PFUnA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C2 PFDoA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C8 PFOS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *M2-4:2 FTS* | *112* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *M2-6:2 FTS* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |

## Client Sample ID: W-MN-RIPL-020

**Lab Sample ID: 410-191218-18**

**Date Collected: 10/02/24 10:15**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *M2-8:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |
| *13C3 PFHxS* | *106* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 22:56* | *1* |

## Client Sample ID: W-MN-RIPL-021

**Lab Sample ID: 410-191218-19**

**Date Collected: 10/02/24 10:25**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.7 | M | 2.5 | 0.85 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.3 | M | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.85 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 14:50 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *89* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |
| *13C4 PFBA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |
| *13C3 PFBS* | *105* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |
| *13C5 PFPeA* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |
| *13C5 PFHxA* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 14:50* | *1* |

## Client Sample ID: W-MN-RIPL-021

**Lab Sample ID: 410-191218-19**

**Date Collected: 10/02/24 10:25**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C8 PFOA | 94 | M | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C9 PFNA | 96 | M | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C6 PFDA | 89 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C7 PFUnA | 93 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C2 PFDoA | 93 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C8 PFOS | 96 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| M2-4:2 FTS | 101 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| M2-6:2 FTS | 98 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| M2-8:2 FTS | 97 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |
| 13C3 PFHxS | 102 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 14:50 | 1 |

## Client Sample ID: W-MN-RIPL-022

**Lab Sample ID: 410-191218-20**

**Date Collected: 10/02/24 10:35**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **3.4** | **M** | 2.5 | 0.83 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.3 | M | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |

## Client Sample ID: W-MN-RIPL-022

**Lab Sample ID: 410-191218-20**

**Date Collected: 10/02/24 10:35**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:03 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *91* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C4 PFBA* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C3 PFBS* | *100* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C5 PFPeA* | *119* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C5 PFHxA* | *94* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C4 PFHpA* | *91* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C8 PFOA* | *86* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C9 PFNA* | *87* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C6 PFDA* | *86* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C7 PFUnA* | *87* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C8 PFOS* | *92* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *M2-4:2 FTS* | *63* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *M2-6:2 FTS* | *98* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *M2-8:2 FTS* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |
| *13C3 PFHxS* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:03* | *1* |

## Client Sample ID: FB-01

**Lab Sample ID: 410-191218-21**

**Date Collected: 10/02/24 08:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.8 | | 2.7 | 0.91 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorononanoic acid (PFNA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| 11Cl-PF3OUdS | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |

## Client Sample ID: FB-01

**Lab Sample ID: 410-191218-21**

**Date Collected: 10/02/24 08:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.8 | | 2.7 | 0.91 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.4 | | 1.8 | 0.46 | ng/L | | 10/22/24 10:37 | 10/26/24 15:17 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *86* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C4 PFBA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C3 PFBS* | *102* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C5 PFPeA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C5 PFHxA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C8 PFOA* | *95* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C9 PFNA* | *98* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C6 PFDA* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C7 PFUnA* | *98* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C2 PFDoA* | *103* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C8 PFOS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *M2-4:2 FTS* | *105* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *M2-6:2 FTS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *M2-8:2 FTS* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |
| *13C3 PFHxS* | *98* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:17* | *1* |

## Client Sample ID: FB-02

**Lab Sample ID: 410-191218-22**

**Date Collected: 10/02/24 10:35**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |

## Client Sample ID: FB-02
**Lab Sample ID: 410-191218-22**
**Date Collected: 10/02/24 10:35**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.5 | 0.82 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.41 | ng/L | | 10/22/24 10:37 | 10/26/24 15:30 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *81* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C4 PFBA* | *85* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C3 PFBS* | *105* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C5 PFPeA* | *86* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C5 PFHxA* | *87* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C4 PFHpA* | *83* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C8 PFOA* | *77* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C9 PFNA* | *69* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C6 PFDA* | *70* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C7 PFUnA* | *77* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C2 PFDoA* | *81* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C8 PFOS* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *M2-4:2 FTS* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *M2-6:2 FTS* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *M2-8:2 FTS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |
| *13C3 PFHxS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:30* | *1* |

## Client Sample ID: FD-01
**Lab Sample ID: 410-191218-23**
**Date Collected: 10/02/24 00:00**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **3.9** | | 2.5 | 0.83 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | ^c cn | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | *- cn | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |

**Client Sample ID: FD-01**
**Lab Sample ID: 410-191218-23**
**Date Collected: 10/02/24 00:00**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

**Method: EPA 533 - EPA 533 Nov 2019 (Continued)**

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.7 | 0.41 | ng/L | | 10/09/24 15:11 | 10/15/24 07:14 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *61* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C4 PFBA* | *68* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C3 PFBS* | *53* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C5 PFPeA* | *85* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C5 PFHxA* | *54* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C4 PFHpA* | *71* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C8 PFOA* | *109* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C9 PFNA* | *82* | *cn* | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C6 PFDA* | *70* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C7 PFUnA* | *63* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C2 PFDoA* | *61* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C8 PFOS* | *85* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *M2-4:2 FTS* | *51* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *M2-6:2 FTS* | *119* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *M2-8:2 FTS* | *105* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |
| *13C3 PFHxS* | *95* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 07:14* | *1* |

## Client Sample ID: Pine City-01
**Lab Sample ID: 410-191218-24**

**Date Collected: 10/03/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **4.3** | **M** | 2.5 | 0.83 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluoropentanoic acid (PFPeA)** | **1.9** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **4.6** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **1.3** | **J** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **6.6** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | M | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **1.6** | **J M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **2.2** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.83 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 15:57 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C4 PFBA* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C3 PFBS* | *99* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C5 PFPeA* | *110* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C5 PFHxA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C4 PFHpA* | *91* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C8 PFOA* | *89* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C9 PFNA* | *80* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C6 PFDA* | *67* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C7 PFUnA* | *66* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C2 PFDoA* | *78* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *13C8 PFOS* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |
| *M2-4:2 FTS* | *101* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 15:57* | *1* |

## Client Sample ID: Pine City-01

**Lab Sample ID: 410-191218-24**

**Date Collected: 10/03/24 10:05**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| M2-6:2 FTS | 94 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| M2-8:2 FTS | 95 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 15:57 | 1 |
| 13C3 PFHxS | 94 | M | 50 - 200 | 10/22/24 10:37 | 10/26/24 15:57 | 1 |

## Client Sample ID: FB-03

**Lab Sample ID: 410-191218-25**

**Date Collected: 10/03/24 10:05**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorononanoic acid (PFNA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 11Cl-PF3OUdS | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.6 | | 2.4 | 0.80 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.2 | | 1.6 | 0.40 | ng/L | | 10/22/24 10:37 | 10/26/24 16:11 | 1 |

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C3 HFPO-DA | 99 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C4 PFBA | 99 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C3 PFBS | 103 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C5 PFPeA | 96 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C5 PFHxA | 103 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |

## Client Sample ID: FB-03

**Lab Sample ID: 410-191218-25**

**Date Collected: 10/03/24 10:05**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 13C4 PFHpA | 99 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C8 PFOA | 99 | M | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C9 PFNA | 103 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C6 PFDA | 96 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C7 PFUnA | 98 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C2 PFDoA | 97 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C8 PFOS | 94 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| M2-4:2 FTS | 99 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| M2-6:2 FTS | 95 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| M2-8:2 FTS | 91 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |
| 13C3 PFHxS | 96 | | 50 - 200 | 10/22/24 10:37 | 10/26/24 16:11 | 1 |

## Client Sample ID: Otsego-01

**Lab Sample ID: 410-191218-26**

**Date Collected: 10/03/24 11:50**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <1.7 | | 2.5 | 0.84 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.84 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |

## Client Sample ID: Otsego-01

**Lab Sample ID: 410-191218-26**

**Date Collected: 10/03/24 11:50**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:24 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C4 PFBA* | *92* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C3 PFBS* | *98* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C5 PFPeA* | *99* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C5 PFHxA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C8 PFOA* | *89* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C9 PFNA* | *79* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C6 PFDA* | *73* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C7 PFUnA* | *78* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C2 PFDoA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C8 PFOS* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *M2-4:2 FTS* | *98* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *M2-6:2 FTS* | *92* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *M2-8:2 FTS* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |
| *13C3 PFHxS* | *96* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:24* | *1* |

## Client Sample ID: Hastings-01

**Lab Sample ID: 410-191218-27**

**Date Collected: 10/03/24 14:30**

**Matrix: Drinking Water**

**Date Received: 10/05/24 10:00**

### Method: EPA 533 - EPA 533 Nov 2019

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluoropentanoic acid (PFPeA)** | **10** | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluorohexanoic acid (PFHxA)** | **4.1** | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **1.1** | **J** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **17** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluorononanoic acid (PFNA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **2.0** | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **2.3** | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **2.2** | **M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluoropentanesulfonic acid (PFPeS)** | **0.43** | **J M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| 11Cl-PF3OUdS | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |

**Client Sample ID: Hastings-01**
**Lab Sample ID: 410-191218-27**
**Date Collected: 10/03/24 14:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <1.7 | | 2.5 | 0.85 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| **Perfluoro-3-methoxypropanoic acid (PFMPA)** | **0.79** | **J M** | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.3 | | 1.7 | 0.42 | ng/L | | 10/22/24 10:37 | 10/26/24 16:38 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *88* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C4 PFBA* | *85* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C3 PFBS* | *99* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C5 PFPeA* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C5 PFHxA* | *88* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C4 PFHpA* | *89* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C8 PFOA* | *81* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C9 PFNA* | *82* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C6 PFDA* | *68* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C7 PFUnA* | *75* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C2 PFDoA* | *83* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C8 PFOS* | *96* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *M2-4:2 FTS* | *97* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *M2-6:2 FTS* | *91* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *M2-8:2 FTS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |
| *13C3 PFHxS* | *97* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 16:38* | *1* |

## Method: EPA 533 - EPA 533 Nov 2019 - DL

| Analyte | Result | Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorobutanoic acid (PFBA)** | **140** | **D M** | 25 | 8.5 | ng/L | | 10/22/24 10:37 | 10/29/24 13:24 | 10 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C4 PFBA* | *92* | | *50 - 200* | *10/22/24 10:37* | *10/29/24 13:24* | *10* |

# Isotope Dilution Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Method: EPA 533 - EPA 533 Nov 2019

### Matrix: Drinking Water

Prep Type: Total/NA

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | HFPODA | PFBA | C3PFBS | PFPeA | 13C5PHA | C4PFHA | C8PFOA | C9PFNA |
| Lab Sample ID | Client Sample ID | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) |
| 410-191218-1 | W-MN-RIPL-001 | 100 | 102 | 105 | 117 | 102 | 99 | 96 | 92 M |
| 410-191218-2 | W-MN-RIPL-002 | 93 | 92 | 105 | 104 | 96 M | 94 | 92 | 97 M |
| 410-191218-3 | W-MN-RIPL-003 | 91 | 97 | 102 | 112 | 92 | 92 | 90 | 98 |
| 410-191218-4 | W-MN-RIPL-004 | 97 | 93 | 101 | 110 | 99 | 98 | 95 M | 93 |
| 410-191218-5 | W-MN-RIPL-005 | 92 | 90 | 102 | 104 | 91 | 94 | 94 | 96 |
| 410-191218-6 | W-MN-RIPL-007 | 89 | 92 | 102 | 111 | 88 | 87 | 92 | 96 M |
| 410-191218-7 | W-MN-RIPL-008 | 101 | 100 | 108 | 110 | 104 | 105 | 101 M | 106 |
| 410-191218-8 | W-MN-RIPL-009 | 95 | 95 | 107 | 113 | 95 | 94 | 95 | 102 |
| 410-191218-9 | W-MN-RIPL-010 | 96 | 97 | 110 | 108 | 98 | 98 | 93 M | 97 |
| 410-191218-10 | W-MN-RIPL-011 | 87 | 91 | 98 | 112 | 88 | 87 | 88 | 90 M |
| 410-191218-11 | W-MN-RIPL-012 | 97 | 100 | 107 | 121 | 103 | 102 | 100 | 100 M |
| 410-191218-12 | W-MN-RIPL-013 | 96 | 97 | 103 | 115 | 96 | 97 | 98 M | 98 M |
| 410-191218-13 | W-MN-RIPL-014 | 99 | 104 | 113 | 116 | 104 | 99 | 101 M | 103 |
| 410-191218-14 | W-MN-RIPL-015 | 100 | 103 | 113 | 119 | 94 | 102 | 97 | 100 M |
| 410-191218-15 | W-MN-RIPL-017 | 96 | 100 | 108 | 108 | 97 | 97 | 96 | 98 M |
| 410-191218-16 | W-MN-RIPL-018 | 98 | 98 | 108 | 110 | 102 | 101 | 100 | 104 |
| 410-191218-17 | W-MN-RIPL-019 | 98 | 103 | 113 | 114 | 101 | 99 | 99 M | 103 |
| 410-191218-18 | W-MN-RIPL-020 | 98 | 102 | 111 | 104 | 101 M | 102 | 98 | 103 |
| 410-191218-19 | W-MN-RIPL-021 | 89 | 90 | 105 | 93 | 96 | 95 | 94 M | 96 M |
| 410-191218-20 | W-MN-RIPL-022 | 91 | 93 | 100 | 119 | 94 M | 91 | 86 M | 87 M |
| 410-191218-21 | FB-01 | 86 | 90 | 102 | 95 | 95 | 95 | 95 M | 98 M |
| 410-191218-22 | FB-02 | 81 | 85 | 105 | 86 | 87 M | 83 | 77 | 69 M |
| 410-191218-23 | FD-01 | 61 | 68 | 53 | 85 | 54 | 71 | 109 | 82 cn |
| 410-191218-24 | Pine City-01 | 95 | 93 | 99 | 110 | 90 | 91 | 89 M | 80 |
| 410-191218-25 | FB-03 | 99 | 99 | 103 | 96 | 103 | 99 | 99 M | 103 |
| 410-191218-26 | Otsego-01 | 96 | 92 | 98 | 99 | 95 | 95 | 89 | 79 M |
| 410-191218-27 | Hastings-01 | 88 | 85 | 99 | 94 | 88 M | 89 | 81 M | 82 |
| 410-191218-27 - DL | Hastings-01 | | 92 | | | | | | |
| LCS 410-561316/2-A | Lab Control Sample | 74 | 65 | 68 | 63 | 78 | 78 | 122 | 79 |
| LCS 410-566183/2-A | Lab Control Sample | 102 | 107 | 106 | 107 | 102 | 101 | 102 | 106 M |
| LCS 410-566272/2-A | Lab Control Sample | 84 | 90 | 103 | 92 | 91 | 89 | 89 | 93 M |
| LCSD 410-561316/3-A | Lab Control Sample Dup | 73 | 70 | 77 | 64 | 71 | 76 | 120 | 83 |
| LCSD 410-566183/3-A | Lab Control Sample Dup | 95 | 99 | 104 | 105 | 101 | 101 | 100 M | 101 |
| LCSD 410-566272/3-A | Lab Control Sample Dup | 83 | 85 | 107 | 88 | 86 | 87 | 82 | 80 |
| MB 410-561316/1-A | Method Blank | 70 | 67 | 79 | 59 | 80 | 74 | 105 | 34 *5- |
| MB 410-566183/1-A | Method Blank | 96 | 91 | 102 | 99 | 101 | 100 | 99 | 102 M |
| MB 410-566272/1-A | Method Blank | 88 | 84 | 103 | 84 | 90 | 91 | 90 | 94 |

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | C6PFDA | 13C7PUA | PFDoA | C8PFOS | M242FTS | M262FTS | M282FTS | C3PFHS |
| Lab Sample ID | Client Sample ID | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) | (50-200) |
| 410-191218-1 | W-MN-RIPL-001 | 89 | 96 | 101 | 99 | 111 | 98 | 98 | 55 |
| 410-191218-2 | W-MN-RIPL-002 | 93 | 92 | 95 | 96 | 116 | 97 | 99 | 96 M |
| 410-191218-3 | W-MN-RIPL-003 | 92 | 91 | 93 | 99 | 111 | 97 | 98 | 101 |
| 410-191218-4 | W-MN-RIPL-004 | 90 | 92 | 94 | 101 | 106 | 99 | 96 | 102 M |
| 410-191218-5 | W-MN-RIPL-005 | 94 | 92 | 90 | 90 | 96 | 93 | 90 | 97 |
| 410-191218-6 | W-MN-RIPL-007 | 93 | 92 | 95 | 96 | 108 | 97 | 97 | 97 |
| 410-191218-7 | W-MN-RIPL-008 | 99 | 96 | 98 | 100 | 104 | 101 | 110 | 105 M |
| 410-191218-8 | W-MN-RIPL-009 | 98 | 101 | 97 | 99 | 113 | 102 | 104 | 103 |
| 410-191218-9 | W-MN-RIPL-010 | 95 | 95 | 96 | 98 | 107 | 96 | 94 | 100 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Matrix: Drinking Water** **Prep Type: Total/NA**

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | C6PFDA (50-200) | 13C7PUA (50-200) | PFDoA (50-200) | C8PFOS (50-200) | M242FTS (50-200) | M262FTS (50-200) | M282FTS (50-200) | C3PFHS (50-200) |
| 410-191218-10 | W-MN-RIPL-011 | 90 | 88 | 87 | 94 | 94 | 89 | 95 | 96 M |
| 410-191218-11 | W-MN-RIPL-012 | 97 | 94 | 93 | 96 | 109 | 98 | 96 | 103 M |
| 410-191218-12 | W-MN-RIPL-013 | 99 | 95 | 90 | 96 | 108 | 97 | 97 | 98 M |
| 410-191218-13 | W-MN-RIPL-014 | 98 | 99 | 98 | 101 | 96 | 101 | 98 | 103 |
| 410-191218-14 | W-MN-RIPL-015 | 94 | 96 | 91 | 96 | 117 | 113 | 101 | 105 |
| 410-191218-15 | W-MN-RIPL-017 | 93 | 96 | 99 | 100 | 105 | 98 | 99 | 105 M |
| 410-191218-16 | W-MN-RIPL-018 | 102 | 102 | 98 | 101 | 99 | 97 | 99 | 104 |
| 410-191218-17 | W-MN-RIPL-019 | 98 | 99 | 102 | 104 | 110 | 101 | 100 | 106 |
| 410-191218-18 | W-MN-RIPL-020 | 98 | 99 | 99 | 101 | 112 | 100 | 97 | 106 |
| 410-191218-19 | W-MN-RIPL-021 | 89 | 93 | 93 | 96 | 101 | 98 | 97 | 102 |
| 410-191218-20 | W-MN-RIPL-022 | 86 | 87 | 92 | 92 | 63 | 98 | 96 | 96 |
| 410-191218-21 | FB-01 | 96 | 98 | 103 | 94 | 105 | 94 | 96 | 98 |
| 410-191218-22 | FB-02 | 70 | 77 | 81 | 95 | 96 | 90 | 94 | 94 |
| 410-191218-23 | FD-01 | 70 | 63 | 61 | 85 | 51 | 119 | 105 | 95 |
| 410-191218-24 | Pine City-01 | 67 | 66 | 78 | 95 | 101 | 94 | 95 | 94 M |
| 410-191218-25 | FB-03 | 96 | 98 | 97 | 94 | 99 | 95 | 91 | 96 |
| 410-191218-26 | Otsego-01 | 73 | 78 | 90 | 93 | 98 | 92 | 93 | 96 M |
| 410-191218-27 | Hastings-01 | 68 | 75 | 83 | 96 | 97 | 91 | 94 | 97 |
| 410-191218-27 - DL | Hastings-01 | | | | | | | | |
| LCS 410-561316/2-A | Lab Control Sample | 58 | 73 | 81 | 93 | 88 | 120 | 99 | 96 |
| LCS 410-566183/2-A | Lab Control Sample | 104 | 100 | 98 | 101 | 98 | 97 | 96 | 99 |
| LCS 410-566272/2-A | Lab Control Sample | 89 | 94 | 95 | 97 | 99 | 94 | 92 | 97 M |
| LCSD 410-561316/3-A | Lab Control Sample Dup | 81 | 79 | 78 | 94 | 90 | 124 | 104 | 99 |
| LCSD 410-566183/3-A | Lab Control Sample Dup | 101 | 101 | 98 | 98 | 101 | 94 | 103 | 104 |
| LCSD 410-566272/3-A | Lab Control Sample Dup | 80 | 87 | 84 | 96 | 103 | 95 | 91 | 99 M |
| MB 410-561316/1-A | Method Blank | 77 | 79 | 89 | 98 | 94 | 119 | 108 | 99 |
| MB 410-566183/1-A | Method Blank | 98 | 100 | 96 | 95 | 101 | 95 | 97 | 100 |
| MB 410-566272/1-A | Method Blank | 90 | 93 | 90 | 94 | 97 | 94 | 94 | 96 M |

**Surrogate Legend**

HFPODA = 13C3 HFPO-DA
PFBA = 13C4 PFBA
C3PFBS = 13C3 PFBS
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
C8PFOS = 13C8 PFOS
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS

## Method: EPA 533 - EPA 533 Nov 2019

**Lab Sample ID: MB 410-561316/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 563075**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 561316**

| Analyte | MB Result | MB Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <2.0 | | 3.0 | 1.0 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorononanoic acid (PFNA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 11Cl-PF3OUdS | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <2.0 | | 3.0 | 1.0 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/09/24 15:11 | 10/15/24 05:27 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *70* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C4 PFBA* | *67* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C3 PFBS* | *79* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C5 PFPeA* | *59* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C5 PFHxA* | *80* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C4 PFHpA* | *74* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C8 PFOA* | *105* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C9 PFNA* | *34* | *5- | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C6 PFDA* | *77* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C7 PFUnA* | *79* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C2 PFDoA* | *89* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |
| *13C8 PFOS* | *98* | | *50 - 200* | *10/09/24 15:11* | *10/15/24 05:27* | *1* |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: MB 410-561316/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 563075**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 561316**

| Isotope Dilution | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| M2-4:2 FTS | 94 | | 50 - 200 | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| M2-6:2 FTS | 119 | | 50 - 200 | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| M2-8:2 FTS | 108 | | 50 - 200 | 10/09/24 15:11 | 10/15/24 05:27 | 1 |
| 13C3 PFHxS | 99 | | 50 - 200 | 10/09/24 15:11 | 10/15/24 05:27 | 1 |

**Lab Sample ID: LCS 410-561316/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 563075**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 561316**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 80.0 | 86.3 | | ng/L | | 108 | 70 - 130 |
| Perfluoropentanoic acid (PFPeA) | 80.0 | 81.3 | | ng/L | | 102 | 70 - 130 |
| Perfluorohexanoic acid (PFHxA) | 80.0 | 70.5 | | ng/L | | 88 | 70 - 130 |
| Perfluoroheptanoic acid (PFHpA) | 80.0 | 78.9 | | ng/L | | 99 | 70 - 130 |
| Perfluorooctanoic acid (PFOA) | 80.0 | 55.3 | *- | ng/L | | 69 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | 80.0 | 74.1 | | ng/L | | 93 | 70 - 130 |
| Perfluorodecanoic acid (PFDA) | 80.0 | 95.6 | | ng/L | | 119 | 70 - 130 |
| Perfluoroundecanoic acid (PFUnA) | 80.0 | 73.6 | | ng/L | | 92 | 70 - 130 |
| Perfluorododecanoic acid (PFDoA) | 80.0 | 75.3 | | ng/L | | 94 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | 70.8 | 75.3 | | ng/L | | 106 | 70 - 130 |
| Perfluorohexanesulfonic acid (PFHxS) | 73.0 | 55.2 | | ng/L | | 76 | 70 - 130 |
| Perfluoroheptanesulfonic acid (PFHpS) | 76.2 | 74.7 | | ng/L | | 98 | 70 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 74.0 | 53.7 | | ng/L | | 73 | 70 - 130 |
| Perfluoropentanesulfonic acid (PFPeS) | 75.0 | 60.3 | | ng/L | | 80 | 70 - 130 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | 74.4 | 67.9 | | ng/L | | 91 | 70 - 130 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | 80.0 | 73.0 | | ng/L | | 91 | 70 - 130 |
| 11Cl-PF3OUdS | 74.4 | 70.5 | | ng/L | | 95 | 70 - 130 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 75.6 | 73.4 | | ng/L | | 97 | 70 - 130 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | 74.7 | 68.0 | | ng/L | | 91 | 70 - 130 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | 75.8 | 59.7 | | ng/L | | 79 | 70 - 130 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | 76.6 | 72.2 | | ng/L | | 94 | 70 - 130 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 80.0 | 69.1 | | ng/L | | 86 | 70 - 130 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 80.0 | 76.5 | | ng/L | | 96 | 70 - 130 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 80.0 | 73.3 | | ng/L | | 92 | 70 - 130 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | 71.2 | 73.5 | | ng/L | | 103 | 70 - 130 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 13C3 HFPO-DA | 74 | | 50 - 200 |
| 13C4 PFBA | 65 | | 50 - 200 |
| 13C3 PFBS | 68 | | 50 - 200 |
| 13C5 PFPeA | 63 | | 50 - 200 |
| 13C5 PFHxA | 78 | | 50 - 200 |
| 13C4 PFHpA | 78 | | 50 - 200 |
| 13C8 PFOA | 122 | | 50 - 200 |
| 13C9 PFNA | 79 | | 50 - 200 |
| 13C6 PFDA | 58 | | 50 - 200 |
| 13C7 PFUnA | 73 | | 50 - 200 |
| 13C2 PFDoA | 81 | | 50 - 200 |
| 13C8 PFOS | 93 | | 50 - 200 |
| M2-4:2 FTS | 88 | | 50 - 200 |
| M2-6:2 FTS | 120 | | 50 - 200 |
| M2-8:2 FTS | 99 | | 50 - 200 |
| 13C3 PFHxS | 96 | | 50 - 200 |

**Lab Sample ID: LCSD 410-561316/3-A**
**Client Sample ID: Lab Control Sample Dup**
**Matrix: Drinking Water**
**Prep Type: Total/NA**
**Analysis Batch: 563075**
**Prep Batch: 561316**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | | | 80.0 | 79.4 | | ng/L | | 99 | 70 - 130 | 8 | 30 |
| Perfluoropentanoic acid (PFPeA) | | | 80.0 | 71.6 | | ng/L | | 90 | 70 - 130 | 13 | 30 |
| Perfluorohexanoic acid (PFHxA) | | | 80.0 | 70.2 | | ng/L | | 88 | 70 - 130 | 0 | 30 |
| Perfluoroheptanoic acid (PFHpA) | | | 80.0 | 75.7 | | ng/L | | 95 | 70 - 130 | 4 | 30 |
| Perfluorooctanoic acid (PFOA) | | | 80.0 | 53.0 | *- | ng/L | | 66 | 70 - 130 | 4 | 30 |
| Perfluorononanoic acid (PFNA) | | | 80.0 | 72.7 | | ng/L | | 91 | 70 - 130 | 2 | 30 |
| Perfluorodecanoic acid (PFDA) | | | 80.0 | 77.0 | | ng/L | | 96 | 70 - 130 | 22 | 30 |
| Perfluoroundecanoic acid (PFUnA) | | | 80.0 | 76.4 | | ng/L | | 95 | 70 - 130 | 4 | 30 |
| Perfluorododecanoic acid (PFDoA) | | | 80.0 | 75.5 | | ng/L | | 94 | 70 - 130 | 0 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | | | 70.8 | 65.7 | | ng/L | | 93 | 70 - 130 | 14 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | | | 73.0 | 53.0 | | ng/L | | 73 | 70 - 130 | 4 | 30 |
| Perfluoroheptanesulfonic acid (PFHpS) | | | 76.2 | 70.8 | | ng/L | | 93 | 70 - 130 | 5 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | | | 74.0 | 51.6 | | ng/L | | 70 | 70 - 130 | 4 | 30 |
| Perfluoropentanesulfonic acid (PFPeS) | | | 75.0 | 64.6 | | ng/L | | 86 | 70 - 130 | 7 | 30 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | | | 74.4 | 65.8 | | ng/L | | 88 | 70 - 130 | 3 | 30 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | | | 80.0 | 70.5 | | ng/L | | 88 | 70 - 130 | 3 | 30 |
| 11Cl-PF3OUdS | | | 74.4 | 61.2 | | ng/L | | 82 | 70 - 130 | 14 | 30 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | | | 75.6 | 68.0 | | ng/L | | 90 | 70 - 130 | 8 | 30 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | | | 74.7 | 65.5 | | ng/L | | 88 | 70 - 130 | 4 | 30 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | | | 75.8 | 54.4 | | ng/L | | 72 | 70 - 130 | 9 | 30 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCSD 410-561316/3-A**
**Matrix: Drinking Water**
**Analysis Batch: 563075**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 561316**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | | | 76.6 | 64.9 | | ng/L | | 85 | 70 - 130 | 11 | 30 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 80.0 | 64.6 | | ng/L | | 81 | 70 - 130 | 7 | 30 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 80.0 | 67.1 | | ng/L | | 84 | 70 - 130 | 13 | 30 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 80.0 | 66.5 | | ng/L | | 83 | 70 - 130 | 10 | 30 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | | | 71.2 | 62.7 | | ng/L | | 88 | 70 - 130 | 16 | 30 |

| *Isotope Dilution* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *13C3 HFPO-DA* | *73* | | *50 - 200* |
| *13C4 PFBA* | *70* | | *50 - 200* |
| *13C3 PFBS* | *77* | | *50 - 200* |
| *13C5 PFPeA* | *64* | | *50 - 200* |
| *13C5 PFHxA* | *71* | | *50 - 200* |
| *13C4 PFHpA* | *76* | | *50 - 200* |
| *13C8 PFOA* | *120* | | *50 - 200* |
| *13C9 PFNA* | *83* | | *50 - 200* |
| *13C6 PFDA* | *81* | | *50 - 200* |
| *13C7 PFUnA* | *79* | | *50 - 200* |
| *13C2 PFDoA* | *78* | | *50 - 200* |
| *13C8 PFOS* | *94* | | *50 - 200* |
| *M2-4:2 FTS* | *90* | | *50 - 200* |
| *M2-6:2 FTS* | *124* | | *50 - 200* |
| *M2-8:2 FTS* | *104* | | *50 - 200* |
| *13C3 PFHxS* | *99* | | *50 - 200* |

**Lab Sample ID: MB 410-566183/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| Analyte | MB Result | MB Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <2.0 | | 3.0 | 1.0 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorononanoic acid (PFNA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: MB 410-566183/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| Analyte | MB Result | MB Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| 11Cl-PF3OUdS | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <2.0 | | 3.0 | 1.0 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 08:46 | 10/26/24 17:32 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C4 PFBA* | *91* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C3 PFBS* | *102* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C5 PFPeA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C5 PFHxA* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C8 PFOA* | *99* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C9 PFNA* | *102* | *M* | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C6 PFDA* | *98* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C7 PFUnA* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C2 PFDoA* | *96* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C8 PFOS* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *M2-4:2 FTS* | *101* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *M2-6:2 FTS* | *95* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *M2-8:2 FTS* | *97* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |
| *13C3 PFHxS* | *100* | | *50 - 200* | *10/22/24 08:46* | *10/26/24 17:32* | *1* |

**Lab Sample ID: LCS 410-566183/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 80.0 | 73.9 | M *1 | ng/L | | 92 | 70 - 130 |
| Perfluoropentanoic acid (PFPeA) | 80.0 | 72.1 | | ng/L | | 90 | 70 - 130 |
| Perfluorohexanoic acid (PFHxA) | 80.0 | 72.1 | | ng/L | | 90 | 70 - 130 |
| Perfluoroheptanoic acid (PFHpA) | 80.0 | 70.6 | | ng/L | | 88 | 70 - 130 |
| Perfluorooctanoic acid (PFOA) | 80.0 | 72.2 | | ng/L | | 90 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | 80.0 | 70.5 | | ng/L | | 88 | 70 - 130 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCS 410-566183/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorodecanoic acid (PFDA) | 80.0 | 70.5 | | ng/L | | 88 | 70 - 130 |
| Perfluoroundecanoic acid (PFUnA) | 80.0 | 70.3 | | ng/L | | 88 | 70 - 130 |
| Perfluorododecanoic acid (PFDoA) | 80.0 | 70.6 | | ng/L | | 88 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | 70.8 | 61.5 | | ng/L | | 87 | 70 - 130 |
| Perfluorohexanesulfonic acid (PFHxS) | 73.0 | 64.9 | M | ng/L | | 89 | 70 - 130 |
| Perfluoroheptanesulfonic acid (PFHpS) | 76.2 | 68.4 | | ng/L | | 90 | 70 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 74.0 | 62.8 | M | ng/L | | 85 | 70 - 130 |
| Perfluoropentanesulfonic acid (PFPeS) | 75.0 | 71.4 | | ng/L | | 95 | 70 - 130 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | 74.4 | 65.0 | | ng/L | | 87 | 70 - 130 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | 80.0 | 68.2 | | ng/L | | 85 | 70 - 130 |
| 11Cl-PF3OUdS | 74.4 | 64.4 | | ng/L | | 87 | 70 - 130 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 75.6 | 68.4 | | ng/L | | 90 | 70 - 130 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | 74.7 | 74.5 | | ng/L | | 100 | 70 - 130 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | 75.8 | 67.2 | | ng/L | | 89 | 70 - 130 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | 76.6 | 74.1 | | ng/L | | 97 | 70 - 130 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 80.0 | 67.0 | | ng/L | | 84 | 70 - 130 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 80.0 | 73.5 | | ng/L | | 92 | 70 - 130 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 80.0 | 70.3 | | ng/L | | 88 | 70 - 130 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | 71.2 | 60.4 | | ng/L | | 85 | 70 - 130 |

| *Isotope Dilution* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *13C3 HFPO-DA* | *102* | | *50 - 200* |
| *13C4 PFBA* | *107* | | *50 - 200* |
| *13C3 PFBS* | *106* | | *50 - 200* |
| *13C5 PFPeA* | *107* | | *50 - 200* |
| *13C5 PFHxA* | *102* | | *50 - 200* |
| *13C4 PFHpA* | *101* | | *50 - 200* |
| *13C8 PFOA* | *102* | | *50 - 200* |
| *13C9 PFNA* | *106* | *M* | *50 - 200* |
| *13C6 PFDA* | *104* | | *50 - 200* |
| *13C7 PFUnA* | *100* | | *50 - 200* |
| *13C2 PFDoA* | *98* | | *50 - 200* |
| *13C8 PFOS* | *101* | | *50 - 200* |
| *M2-4:2 FTS* | *98* | | *50 - 200* |
| *M2-6:2 FTS* | *97* | | *50 - 200* |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCS 410-566183/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| *Isotope Dilution* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *M2-8:2 FTS* | *96* | | *50 - 200* |
| *13C3 PFHxS* | *99* | | *50 - 200* |

**Lab Sample ID: LCSD 410-566183/3-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 566183**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | | | 80.0 | 75.6 | | ng/L | | 94 | 70 - 130 | 2 | 30 |
| Perfluoropentanoic acid (PFPeA) | | | 80.0 | 67.1 | | ng/L | | 84 | 70 - 130 | 7 | 30 |
| Perfluorohexanoic acid (PFHxA) | | | 80.0 | 72.1 | | ng/L | | 90 | 70 - 130 | 0 | 30 |
| Perfluoroheptanoic acid (PFHpA) | | | 80.0 | 72.7 | | ng/L | | 91 | 70 - 130 | 3 | 30 |
| Perfluorooctanoic acid (PFOA) | | | 80.0 | 73.8 | | ng/L | | 92 | 70 - 130 | 2 | 30 |
| Perfluorononanoic acid (PFNA) | | | 80.0 | 75.2 | M | ng/L | | 94 | 70 - 130 | 7 | 30 |
| Perfluorodecanoic acid (PFDA) | | | 80.0 | 69.9 | | ng/L | | 87 | 70 - 130 | 1 | 30 |
| Perfluoroundecanoic acid (PFUnA) | | | 80.0 | 70.1 | | ng/L | | 88 | 70 - 130 | 0 | 30 |
| Perfluorododecanoic acid (PFDoA) | | | 80.0 | 72.0 | | ng/L | | 90 | 70 - 130 | 2 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | | | 70.8 | 65.8 | | ng/L | | 93 | 70 - 130 | 7 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | | | 73.0 | 63.5 | M | ng/L | | 87 | 70 - 130 | 2 | 30 |
| Perfluoroheptanesulfonic acid (PFHpS) | | | 76.2 | 69.6 | | ng/L | | 91 | 70 - 130 | 2 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | | | 74.0 | 66.5 | M | ng/L | | 90 | 70 - 130 | 6 | 30 |
| Perfluoropentanesulfonic acid (PFPeS) | | | 75.0 | 72.8 | | ng/L | | 97 | 70 - 130 | 2 | 30 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | | | 74.4 | 64.5 | | ng/L | | 87 | 70 - 130 | 1 | 30 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | | | 80.0 | 72.5 | | ng/L | | 91 | 70 - 130 | 6 | 30 |
| 11Cl-PF3OUdS | | | 74.4 | 65.8 | | ng/L | | 88 | 70 - 130 | 2 | 30 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | | | 75.6 | 66.2 | | ng/L | | 88 | 70 - 130 | 3 | 30 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | | | 74.7 | 73.1 | | ng/L | | 98 | 70 - 130 | 2 | 30 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | | | 75.8 | 72.6 | | ng/L | | 96 | 70 - 130 | 8 | 30 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | | | 76.6 | 67.7 | | ng/L | | 88 | 70 - 130 | 9 | 30 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 80.0 | 76.4 | | ng/L | | 96 | 70 - 130 | 13 | 30 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 80.0 | 75.6 | | ng/L | | 95 | 70 - 130 | 3 | 30 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 80.0 | 70.4 | | ng/L | | 88 | 70 - 130 | 0 | 30 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | | | 71.2 | 65.8 | | ng/L | | 92 | 70 - 130 | 9 | 30 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

| Isotope Dilution | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 13C3 HFPO-DA | 95 | | 50 - 200 |
| 13C4 PFBA | 99 | | 50 - 200 |
| 13C3 PFBS | 104 | | 50 - 200 |
| 13C5 PFPeA | 105 | | 50 - 200 |
| 13C5 PFHxA | 101 | | 50 - 200 |
| 13C4 PFHpA | 101 | | 50 - 200 |
| 13C8 PFOA | 100 | M | 50 - 200 |
| 13C9 PFNA | 101 | | 50 - 200 |
| 13C6 PFDA | 101 | | 50 - 200 |
| 13C7 PFUnA | 101 | | 50 - 200 |
| 13C2 PFDoA | 98 | | 50 - 200 |
| 13C8 PFOS | 98 | | 50 - 200 |
| M2-4:2 FTS | 101 | | 50 - 200 |
| M2-6:2 FTS | 94 | | 50 - 200 |
| M2-8:2 FTS | 103 | | 50 - 200 |
| 13C3 PFHxS | 104 | | 50 - 200 |

**Lab Sample ID: MB 410-566272/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | MB Result | MB Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | <2.0 | M | 3.0 | 1.0 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoropentanoic acid (PFPeA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorohexanoic acid (PFHxA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoroheptanoic acid (PFHpA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorooctanoic acid (PFOA) | <1.5 | M | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorononanoic acid (PFNA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorodecanoic acid (PFDA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoroundecanoic acid (PFUnA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorododecanoic acid (PFDoA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoroheptanesulfonic acid (PFHpS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoropentanesulfonic acid (PFPeS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 11Cl-PF3OUdS | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | <2.0 | | 3.0 | 1.0 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: MB 410-566272/1-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | MB Result | MB Qualifier | LOQ | DL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoro-3-methoxypropanoic acid (PFMPA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | <1.5 | | 2.0 | 0.50 | ng/L | | 10/22/24 10:37 | 10/26/24 13:56 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C3 HFPO-DA* | *88* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C4 PFBA* | *84* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C3 PFBS* | *103* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C5 PFPeA* | *84* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C5 PFHxA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C4 PFHpA* | *91* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C8 PFOA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C9 PFNA* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C6 PFDA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C7 PFUnA* | *93* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C2 PFDoA* | *90* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C8 PFOS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *M2-4:2 FTS* | *97* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *M2-6:2 FTS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *M2-8:2 FTS* | *94* | | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |
| *13C3 PFHxS* | *96* | *M* | *50 - 200* | *10/22/24 10:37* | *10/26/24 13:56* | *1* |

**Lab Sample ID: LCS 410-566272/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | 10.0 | 10.1 | M | ng/L | | 101 | 70 - 130 |
| Perfluoropentanoic acid (PFPeA) | 10.0 | 9.60 | | ng/L | | 96 | 70 - 130 |
| Perfluorohexanoic acid (PFHxA) | 10.0 | 9.47 | | ng/L | | 95 | 70 - 130 |
| Perfluoroheptanoic acid (PFHpA) | 10.0 | 10.1 | | ng/L | | 101 | 70 - 130 |
| Perfluorooctanoic acid (PFOA) | 10.0 | 10.4 | | ng/L | | 104 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | 10.0 | 10.5 | | ng/L | | 105 | 70 - 130 |
| Perfluorodecanoic acid (PFDA) | 10.0 | 10.8 | | ng/L | | 108 | 70 - 130 |
| Perfluoroundecanoic acid (PFUnA) | 10.0 | 10.0 | | ng/L | | 100 | 70 - 130 |
| Perfluorododecanoic acid (PFDoA) | 10.0 | 10.1 | | ng/L | | 101 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | 8.85 | 8.28 | | ng/L | | 94 | 70 - 130 |
| Perfluorohexanesulfonic acid (PFHxS) | 9.12 | 8.69 | M | ng/L | | 95 | 70 - 130 |
| Perfluoroheptanesulfonic acid (PFHpS) | 9.52 | 9.00 | | ng/L | | 95 | 70 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 9.26 | 8.95 | M | ng/L | | 97 | 70 - 130 |
| Perfluoropentanesulfonic acid (PFPeS) | 9.38 | 9.13 | | ng/L | | 97 | 70 - 130 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCS 410-566272/2-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | | | 9.30 | 9.37 | | ng/L | | 101 | 70 - 130 | | |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | | | 10.0 | 9.72 | | ng/L | | 97 | 70 - 130 | | |
| 11Cl-PF3OUdS | | | 9.30 | 9.48 | | ng/L | | 102 | 70 - 130 | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | | | 9.45 | 8.82 | | ng/L | | 93 | 70 - 130 | | |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | | | 9.34 | 9.39 | | ng/L | | 101 | 70 - 130 | | |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | | | 9.48 | 9.47 | | ng/L | | 100 | 70 - 130 | | |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | | | 9.58 | 10.1 | | ng/L | | 106 | 70 - 130 | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 10.0 | 8.51 | | ng/L | | 85 | 70 - 130 | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 10.0 | 9.32 | | ng/L | | 93 | 70 - 130 | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 10.0 | 9.42 | | ng/L | | 94 | 70 - 130 | | |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | | | 8.90 | 8.33 | | ng/L | | 94 | 70 - 130 | | |

| *Isotope Dilution* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *13C3 HFPO-DA* | *84* | | *50 - 200* |
| *13C4 PFBA* | *90* | | *50 - 200* |
| *13C3 PFBS* | *103* | | *50 - 200* |
| *13C5 PFPeA* | *92* | | *50 - 200* |
| *13C5 PFHxA* | *91* | | *50 - 200* |
| *13C4 PFHpA* | *89* | | *50 - 200* |
| *13C8 PFOA* | *89* | | *50 - 200* |
| *13C9 PFNA* | *93* | *M* | *50 - 200* |
| *13C6 PFDA* | *89* | | *50 - 200* |
| *13C7 PFUnA* | *94* | | *50 - 200* |
| *13C2 PFDoA* | *95* | | *50 - 200* |
| *13C8 PFOS* | *97* | | *50 - 200* |
| *M2-4:2 FTS* | *99* | | *50 - 200* |
| *M2-6:2 FTS* | *94* | | *50 - 200* |
| *M2-8:2 FTS* | *92* | | *50 - 200* |
| *13C3 PFHxS* | *97* | *M* | *50 - 200* |

**Lab Sample ID: LCSD 410-566272/3-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorobutanoic acid (PFBA) | | | 10.0 | 10.3 | | ng/L | | 103 | 70 - 130 | 2 | 30 |
| Perfluoropentanoic acid (PFPeA) | | | 10.0 | 9.60 | | ng/L | | 96 | 70 - 130 | 0 | 30 |
| Perfluorohexanoic acid (PFHxA) | | | 10.0 | 9.79 | | ng/L | | 98 | 70 - 130 | 3 | 30 |
| Perfluoroheptanoic acid (PFHpA) | | | 10.0 | 9.72 | | ng/L | | 97 | 70 - 130 | 3 | 30 |
| Perfluorooctanoic acid (PFOA) | | | 10.0 | 10.3 | | ng/L | | 103 | 70 - 130 | 1 | 30 |
| Perfluorononanoic acid (PFNA) | | | 10.0 | 10.3 | | ng/L | | 103 | 70 - 130 | 1 | 30 |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCSD 410-566272/3-A**
**Matrix: Drinking Water**
**Analysis Batch: 568276**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 566272**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorodecanoic acid (PFDA) | | | 10.0 | 10.6 | | ng/L | | 106 | 70 - 130 | 1 | 30 |
| Perfluoroundecanoic acid (PFUnA) | | | 10.0 | 10.1 | | ng/L | | 101 | 70 - 130 | 1 | 30 |
| Perfluorododecanoic acid (PFDoA) | | | 10.0 | 11.0 | | ng/L | | 110 | 70 - 130 | 9 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | | | 8.85 | 8.17 | | ng/L | | 92 | 70 - 130 | 1 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | | | 9.12 | 8.75 | | ng/L | | 96 | 70 - 130 | 1 | 30 |
| Perfluoroheptanesulfonic acid (PFHpS) | | | 9.52 | 9.39 | | ng/L | | 99 | 70 - 130 | 4 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | | | 9.26 | 9.01 | M | ng/L | | 97 | 70 - 130 | 1 | 30 |
| Perfluoropentanesulfonic acid (PFPeS) | | | 9.38 | 9.71 | | ng/L | | 104 | 70 - 130 | 6 | 30 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | | | 9.30 | 9.11 | | ng/L | | 98 | 70 - 130 | 3 | 30 |
| Hexafluoropropylene oxide dimer acid (HFPO DA) | | | 10.0 | 9.38 | M | ng/L | | 94 | 70 - 130 | 4 | 30 |
| 11Cl-PF3OUdS | | | 9.30 | 10.1 | | ng/L | | 108 | 70 - 130 | 6 | 30 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | | | 9.45 | 8.77 | | ng/L | | 93 | 70 - 130 | 1 | 30 |
| 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) | | | 9.34 | 9.02 | | ng/L | | 97 | 70 - 130 | 4 | 30 |
| 1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) | | | 9.48 | 9.45 | | ng/L | | 100 | 70 - 130 | 0 | 30 |
| 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) | | | 9.58 | 10.4 | | ng/L | | 109 | 70 - 130 | 3 | 30 |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 10.0 | 8.59 | | ng/L | | 86 | 70 - 130 | 1 | 30 |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 10.0 | 9.63 | | ng/L | | 96 | 70 - 130 | 3 | 30 |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 10.0 | 9.23 | | ng/L | | 92 | 70 - 130 | 2 | 30 |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) | | | 8.90 | 8.30 | | ng/L | | 93 | 70 - 130 | 0 | 30 |

| *Isotope Dilution* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *13C3 HFPO-DA* | *83* | | *50 - 200* |
| *13C4 PFBA* | *85* | | *50 - 200* |
| *13C3 PFBS* | *107* | | *50 - 200* |
| *13C5 PFPeA* | *88* | | *50 - 200* |
| *13C5 PFHxA* | *86* | | *50 - 200* |
| *13C4 PFHpA* | *87* | | *50 - 200* |
| *13C8 PFOA* | *82* | | *50 - 200* |
| *13C9 PFNA* | *80* | | *50 - 200* |
| *13C6 PFDA* | *80* | | *50 - 200* |
| *13C7 PFUnA* | *87* | | *50 - 200* |
| *13C2 PFDoA* | *84* | | *50 - 200* |
| *13C8 PFOS* | *96* | | *50 - 200* |
| *M2-4:2 FTS* | *103* | | *50 - 200* |
| *M2-6:2 FTS* | *95* | | *50 - 200* |

## Method: EPA 533 - EPA 533 Nov 2019 (Continued)

**Lab Sample ID: LCSD 410-566272/3-A**
**Client Sample ID: Lab Control Sample Dup**
**Matrix: Drinking Water**
**Prep Type: Total/NA**
**Analysis Batch: 568276**
**Prep Batch: 566272**

| Isotope Dilution | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| M2-8:2 FTS | 91 | | 50 - 200 |
| 13C3 PFHxS | 99 | M | 50 - 200 |

## LCMS

### Prep Batch: 561316

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-23 | FD-01 | Total/NA | Drinking Water | EPA 533 | |
| MB 410-561316/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | |
| LCS 410-561316/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | |
| LCSD 410-561316/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | |

### Analysis Batch: 563075

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-23 | FD-01 | Total/NA | Drinking Water | EPA 533 | 561316 |
| MB 410-561316/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | 561316 |
| LCS 410-561316/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | 561316 |
| LCSD 410-561316/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | 561316 |

### Prep Batch: 566183

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-1 | W-MN-RIPL-001 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-2 | W-MN-RIPL-002 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-3 | W-MN-RIPL-003 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-4 | W-MN-RIPL-004 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-5 | W-MN-RIPL-005 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-6 | W-MN-RIPL-007 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-7 | W-MN-RIPL-008 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-8 | W-MN-RIPL-009 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-9 | W-MN-RIPL-010 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-10 | W-MN-RIPL-011 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-11 | W-MN-RIPL-012 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-12 | W-MN-RIPL-013 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-13 | W-MN-RIPL-014 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-14 | W-MN-RIPL-015 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-15 | W-MN-RIPL-017 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-16 | W-MN-RIPL-018 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-17 | W-MN-RIPL-019 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-18 | W-MN-RIPL-020 | Total/NA | Drinking Water | EPA 533 | |
| MB 410-566183/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | |
| LCS 410-566183/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | |
| LCSD 410-566183/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | |

### Prep Batch: 566272

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-19 | W-MN-RIPL-021 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-20 | W-MN-RIPL-022 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-21 | FB-01 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-22 | FB-02 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-23 - RE | FD-01 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-24 | Pine City-01 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-25 | FB-03 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-26 | Otsego-01 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-27 - DL | Hastings-01 | Total/NA | Drinking Water | EPA 533 | |
| 410-191218-27 | Hastings-01 | Total/NA | Drinking Water | EPA 533 | |
| MB 410-566272/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | |
| LCS 410-566272/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | |
| LCSD 410-566272/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | |

## LCMS

### Analysis Batch: 568276

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-1 | W-MN-RIPL-001 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-2 | W-MN-RIPL-002 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-3 | W-MN-RIPL-003 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-4 | W-MN-RIPL-004 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-5 | W-MN-RIPL-005 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-6 | W-MN-RIPL-007 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-7 | W-MN-RIPL-008 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-8 | W-MN-RIPL-009 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-9 | W-MN-RIPL-010 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-10 | W-MN-RIPL-011 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-11 | W-MN-RIPL-012 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-12 | W-MN-RIPL-013 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-13 | W-MN-RIPL-014 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-14 | W-MN-RIPL-015 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-15 | W-MN-RIPL-017 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-16 | W-MN-RIPL-018 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-17 | W-MN-RIPL-019 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-18 | W-MN-RIPL-020 | Total/NA | Drinking Water | EPA 533 | 566183 |
| 410-191218-19 | W-MN-RIPL-021 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-20 | W-MN-RIPL-022 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-21 | FB-01 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-22 | FB-02 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-23 - RE | FD-01 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-24 | Pine City-01 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-25 | FB-03 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-26 | Otsego-01 | Total/NA | Drinking Water | EPA 533 | 566272 |
| 410-191218-27 | Hastings-01 | Total/NA | Drinking Water | EPA 533 | 566272 |
| MB 410-566183/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | 566183 |
| MB 410-566272/1-A | Method Blank | Total/NA | Drinking Water | EPA 533 | 566272 |
| LCS 410-566183/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | 566183 |
| LCS 410-566272/2-A | Lab Control Sample | Total/NA | Drinking Water | EPA 533 | 566272 |
| LCSD 410-566183/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | 566183 |
| LCSD 410-566272/3-A | Lab Control Sample Dup | Total/NA | Drinking Water | EPA 533 | 566272 |

### Analysis Batch: 568965

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 410-191218-27 - DL | Hastings-01 | Total/NA | Drinking Water | EPA 533 | 566272 |

## Client Sample ID: W-MN-RIPL-001
**Lab Sample ID: 410-191218-1**

**Date Collected: 10/02/24 08:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 18:26 |

## Client Sample ID: W-MN-RIPL-002
**Lab Sample ID: 410-191218-2**

**Date Collected: 10/02/24 09:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 18:53 |

## Client Sample ID: W-MN-RIPL-003
**Lab Sample ID: 410-191218-3**

**Date Collected: 10/02/24 08:58**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 19:06 |

## Client Sample ID: W-MN-RIPL-004
**Lab Sample ID: 410-191218-4**

**Date Collected: 10/02/24 08:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 19:20 |

## Client Sample ID: W-MN-RIPL-005
**Lab Sample ID: 410-191218-5**

**Date Collected: 10/02/24 08:35**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 19:33 |

## Client Sample ID: W-MN-RIPL-007
**Lab Sample ID: 410-191218-6**

**Date Collected: 10/02/24 14:02**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 19:47 |

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Client Sample ID: W-MN-RIPL-008
**Lab Sample ID: 410-191218-7**
**Date Collected: 10/02/24 13:40**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 20:00 |

## Client Sample ID: W-MN-RIPL-009
**Lab Sample ID: 410-191218-8**
**Date Collected: 10/02/24 13:13**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 20:14 |

## Client Sample ID: W-MN-RIPL-010
**Lab Sample ID: 410-191218-9**
**Date Collected: 10/02/24 12:50**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 20:27 |

## Client Sample ID: W-MN-RIPL-011
**Lab Sample ID: 410-191218-10**
**Date Collected: 10/02/24 11:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 20:41 |

## Client Sample ID: W-MN-RIPL-012
**Lab Sample ID: 410-191218-11**
**Date Collected: 10/02/24 14:50**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 21:08 |

## Client Sample ID: W-MN-RIPL-013
**Lab Sample ID: 410-191218-12**
**Date Collected: 10/02/24 11:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 21:35 |

## Client Sample ID: W-MN-RIPL-014
**Lab Sample ID: 410-191218-13**

**Date Collected: 10/02/24 11:15**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 21:48 |

## Client Sample ID: W-MN-RIPL-015
**Lab Sample ID: 410-191218-14**

**Date Collected: 10/02/24 11:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 22:02 |

## Client Sample ID: W-MN-RIPL-017
**Lab Sample ID: 410-191218-15**

**Date Collected: 10/02/24 09:45**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 22:15 |

## Client Sample ID: W-MN-RIPL-018
**Lab Sample ID: 410-191218-16**

**Date Collected: 10/02/24 09:55**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 22:29 |

## Client Sample ID: W-MN-RIPL-019
**Lab Sample ID: 410-191218-17**

**Date Collected: 10/02/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 22:42 |

## Client Sample ID: W-MN-RIPL-020
**Lab Sample ID: 410-191218-18**

**Date Collected: 10/02/24 10:15**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566183 | DX7G | ELLE | 10/22/24 08:46 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 22:56 |

## Client Sample ID: W-MN-RIPL-021
**Lab Sample ID: 410-191218-19**

**Date Collected: 10/02/24 10:25**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 14:50 |

## Client Sample ID: W-MN-RIPL-022
**Lab Sample ID: 410-191218-20**

**Date Collected: 10/02/24 10:35**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 15:03 |

## Client Sample ID: FB-01
**Lab Sample ID: 410-191218-21**

**Date Collected: 10/02/24 08:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 15:17 |

## Client Sample ID: FB-02
**Lab Sample ID: 410-191218-22**

**Date Collected: 10/02/24 10:35**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 15:30 |

## Client Sample ID: FD-01
**Lab Sample ID: 410-191218-23**

**Date Collected: 10/02/24 00:00**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 561316 | ULU3 | ELLE | 10/09/24 15:11 |
| Total/NA | Analysis | EPA 533 | | 1 | 563075 | QD9Y | ELLE | 10/15/24 07:14 |
| Total/NA | Prep | EPA 533 | RE | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | RE | 1 | 568276 | QD9Y | ELLE | 10/26/24 15:44 |

## Client Sample ID: Pine City-01
**Lab Sample ID: 410-191218-24**

**Date Collected: 10/03/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 15:57 |

# Lab Chronicle

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Client Sample ID: FB-03
**Lab Sample ID: 410-191218-25**
**Date Collected: 10/03/24 10:05**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 16:11 |

## Client Sample ID: Otsego-01
**Lab Sample ID: 410-191218-26**
**Date Collected: 10/03/24 11:50**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 16:24 |

## Client Sample ID: Hastings-01
**Lab Sample ID: 410-191218-27**
**Date Collected: 10/03/24 14:30**
**Matrix: Drinking Water**
**Date Received: 10/05/24 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | EPA 533 | | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | | 1 | 568276 | QD9Y | ELLE | 10/26/24 16:38 |
| Total/NA | Prep | EPA 533 | DL | | 566272 | DX7G | ELLE | 10/22/24 10:37 |
| Total/NA | Analysis | EPA 533 | DL | 10 | 568965 | WR4P | ELLE | 10/29/24 13:24 |

**Laboratory References:**

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

# Accreditation/Certification Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

## Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| A2LA | Dept. of Defense ELAP | 0001.01 | 11-30-26 |
| Minnesota | NELAP | 042-999-487 | 12-31-24 |

# Method Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| EPA 533 | EPA 533 Nov 2019 | EPA | ELLE |
| EPA 533 | EPA 533 Nov 2019 | EPA | ELLE |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

# Sample Summary

Client: MN Dept of Military Affairs Facilities Management Office
Job ID: 410-191218-1
Project/Site: 533 Analysis of Drinking Water

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 410-191218-1 | W-MN-RIPL-001 | Drinking Water | 10/02/24 08:45 | 10/05/24 10:00 |
| 410-191218-2 | W-MN-RIPL-002 | Drinking Water | 10/02/24 09:05 | 10/05/24 10:00 |
| 410-191218-3 | W-MN-RIPL-003 | Drinking Water | 10/02/24 08:58 | 10/05/24 10:00 |
| 410-191218-4 | W-MN-RIPL-004 | Drinking Water | 10/02/24 08:30 | 10/05/24 10:00 |
| 410-191218-5 | W-MN-RIPL-005 | Drinking Water | 10/02/24 08:35 | 10/05/24 10:00 |
| 410-191218-6 | W-MN-RIPL-007 | Drinking Water | 10/02/24 14:02 | 10/05/24 10:00 |
| 410-191218-7 | W-MN-RIPL-008 | Drinking Water | 10/02/24 13:40 | 10/05/24 10:00 |
| 410-191218-8 | W-MN-RIPL-009 | Drinking Water | 10/02/24 13:13 | 10/05/24 10:00 |
| 410-191218-9 | W-MN-RIPL-010 | Drinking Water | 10/02/24 12:50 | 10/05/24 10:00 |
| 410-191218-10 | W-MN-RIPL-011 | Drinking Water | 10/02/24 11:45 | 10/05/24 10:00 |
| 410-191218-11 | W-MN-RIPL-012 | Drinking Water | 10/02/24 14:50 | 10/05/24 10:00 |
| 410-191218-12 | W-MN-RIPL-013 | Drinking Water | 10/02/24 11:30 | 10/05/24 10:00 |
| 410-191218-13 | W-MN-RIPL-014 | Drinking Water | 10/02/24 11:15 | 10/05/24 10:00 |
| 410-191218-14 | W-MN-RIPL-015 | Drinking Water | 10/02/24 11:05 | 10/05/24 10:00 |
| 410-191218-15 | W-MN-RIPL-017 | Drinking Water | 10/02/24 09:45 | 10/05/24 10:00 |
| 410-191218-16 | W-MN-RIPL-018 | Drinking Water | 10/02/24 09:55 | 10/05/24 10:00 |
| 410-191218-17 | W-MN-RIPL-019 | Drinking Water | 10/02/24 10:05 | 10/05/24 10:00 |
| 410-191218-18 | W-MN-RIPL-020 | Drinking Water | 10/02/24 10:15 | 10/05/24 10:00 |
| 410-191218-19 | W-MN-RIPL-021 | Drinking Water | 10/02/24 10:25 | 10/05/24 10:00 |
| 410-191218-20 | W-MN-RIPL-022 | Drinking Water | 10/02/24 10:35 | 10/05/24 10:00 |
| 410-191218-21 | FB-01 | Drinking Water | 10/02/24 08:30 | 10/05/24 10:00 |
| 410-191218-22 | FB-02 | Drinking Water | 10/02/24 10:35 | 10/05/24 10:00 |
| 410-191218-23 | FD-01 | Drinking Water | 10/02/24 00:00 | 10/05/24 10:00 |
| 410-191218-24 | Pine City-01 | Drinking Water | 10/03/24 10:05 | 10/05/24 10:00 |
| 410-191218-25 | FB-03 | Drinking Water | 10/03/24 10:05 | 10/05/24 10:00 |
| 410-191218-26 | Otsego-01 | Drinking Water | 10/03/24 11:50 | 10/05/24 10:00 |
| 410-191218-27 | Hastings-01 | Drinking Water | 10/03/24 14:30 | 10/05/24 10:00 |

**Eurofins**
2425 New H
Lancaster,
Phone (717)

410-191218 Chain of Custody

# Chain of Custody Record

eurofins | Environment Testing

**Client Info**

| | | | | |
|---|---|---|---|---|
| Client Contact: Russell Howard | Sampler: Russell Howard | Lab PM: Brown, Nicole | Carrier Tracking No(s): | COC No: 410-130691-36901 |
| Company: MN Dept of Military Affairs Facilities Management Office | Phone: 214-300-5496 | E-Mail: Nicole.Brown@et.eurofinsus.com | State of Origin: MN | Page: 1 of 3 |
| Address: 15000 Highway 115 Camp Ripley Building 2-1 | PWSID: | Analysis Requested | | Job #: |
| City: Little Falls | Due Date Requested: | | | Preservation Codes: I - NH4 Acetate |
| State, Zip: MN, 56345-4173 | TAT Requested (days): Normal | | | |
| Phone: 214-300-5496(Tel) | Compliance Project: Δ Yes Δ No | | | |
| Email: russell.d.howard7.nfg@army.mil | PO #: P0101-3000050545 | | | |
| Project Name: 533 Analysis of Drinking Water | WO #: MN Contract ID# 214289 | | | |
| Site: Camp Ripley | Project #: 41021418 | | | Other: |
| | SSOW#: | | | |

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 533 - PFAS in DW by 533 | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | I | | |
| W-MN-RIPL-001 | 10/2/24 | 0845 | G | DW | | | X | 2 | |
| W-MN-RIPL-002 | 10/2/24 | 0905 | | DW | | | X | 2 | |
| W-MN-RIPL-003 | | 0859 | | DW | | | X | 2 | |
| W-MN-RIPL-004 | | 0830 | | DW | | | X | 2 | |
| W-MN-RIPL-005 | | 0935 | | DW | | | X | 2 | |
| W-MN-RIPL-~~006~~ 007 | | 1402 | | DW | | | X | 2 | |
| W-MN-RIPL-008 | | 1340 | | DW | | | X | 2 | |
| W-MN-RIPL-009 | | 1313 | | DW | | | X | 2 | |
| W-MN-RIPL-010 | | 1250 | | DW | | | X | 2 | |
| W-MN-RIPL-011 | ↓ | 1145 | ↓ | DW | | | X | 2 | |
| W-MN-RIPL-012 | 10/2/24 | 1450 | G | DW | | | X | 2 | |

**Possible Hazard Identification**
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| | | | |
|---|---|---|---|
| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: | Date/Time: 10/4/24 1054 | Company: | Received by: Cooler | Date/Time: | Company: Fedex |
| Relinquished by: | Date/Time: | Company: | Received by: | Date/Time: | Company: |
| Relinquished by: | Date/Time: | Company: | Received by: | Date/Time: 10/5/24 1000 | Company: |

Custody Seals Intact: ☐ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: R3.5-C3.5 R1.5-C1.1

**Eurofins Lancaster Laboratories Environme**
2425 New Holland Pike
Lancaster, PA 17601
Phone (717) 656-2300

# Chain of Custody Record

eurofins | Environment Testing

| Client Information | Sampler: Russell Howard | Lab PM: Brown, Nicole | Carrier Tracking No(s): | COC No: 410-130691-36901 |
|---|---|---|---|---|
| Client Contact: Russell Howard | Phone: 214-300-5496 | E-Mail: Nicole.Brown@et.eurofinsus.com | State of Origin: MN | Page: 2 of 3 |
| Company: MN Dept of Military Affairs Facilities Management Office | PWSID: | Analysis Requested | | Job #: |
| Address: 15000 Highway 115 Camp Ripley Building 2-1 | Due Date Requested: | | | Preservation Codes: I - NH4 Acetate |
| City: Little Falls | TAT Requested (days): Normal | | | |
| State, Zip: MN, 56345-4173 | Compliance Project: Δ Yes Δ No | | | |
| Phone: 214-300-5496(Tel) | PO #: P0101-3000050545 | | | |
| Email: russell.d.howard7.nfg@army.mil | WO #: MN Contract ID# 214289 | | | |
| Project Name: 533 Analysis of Drinking Water | Project #: 41021418 | | | |
| Site: Camp Ripley | SSOW#: | | | Other: |

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 533 - PFAS in DW by 533 | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | | | |
| W-MN-RIPL-013 | 10/2/24 | 1130 | G | DW | | | X | 2 | |
| W-MN-RIPL-014 | | 1115 | | DW | | | X | 2 | |
| W-MN-RIPL-015 | | 1105 | | DW | | | X | 2 | |
| W-MN-RIPL-017 | | 0945 | | DW | | | X | 2 | |
| W-MN-RIPL-018 | | 0955 | | DW | | | X | 2 | |
| W-MN-RIPL-019 | | 1005 | | DW | | | X | 2 | |
| W-MN-RIPL-020 | | 1015 | | DW | | | X | 2 | |
| W-MN-RIPL-021 | | 1025 | | DW | | | X | 2 | |
| W-MN-RIPL-022 | | 1035 | | DW | | | X | 2 | |
| FB-01 | | 0830 | | DW | | | X | 2 | |
| FB-02 | 10/2/24 | 1035 | G | DW | | | X | 2 | |

**Possible Hazard Identification**
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|---|
| 1 | | 10/4/24 1034 | | Cooler | | Fedex |
| 2 | | | | | | |
| 3 | | | | | 10/5/24 1000 | MS |

Custody Seals Intact: ☒ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: R2.5-C2.5 R1.5-C1.1

**Eurofins Lancaster Laboratories Environme**
2425 New Holland Pike
Lancaster, PA 17601
Phone (717) 656-2300

# Chain of Custody Record

eurofins | Environment Testing

| Client Information | Sampler: Russell Howard | Lab PM: Brown, Nicole | Carrier Tracking No(s): | COC No: 410-130691-36901 |
|---|---|---|---|---|
| Client Contact: Russell Howard | Phone: 214-300-5496 | E-Mail: Nicole.Brown@et.eurofinsus.com | State of Origin: MN | Page: 3 of 3 |
| Company: MN Dept of Military Affairs Facilities Management Office | PWSID: | Analysis Requested | | Job #: |
| Address: 15000 Highway 115 Camp Ripley Building 2-1 | Due Date Requested: | | | Preservation Codes: I - NH4 Acetate |
| City: Little Falls | TAT Requested (days): Normal | | | |
| State, Zip: MN, 56345-4173 | Compliance Project: Δ Yes Δ No | | | |
| Phone: 214-300-5496(Tel) | PO #: P0101-3000050545 | | | |
| Email: russell.d.howard7.nfg@army.mil | WO #: MN Contract ID# 214289 | | | Other: |
| Project Name: 533 Analysis of Drinking Water | Project #: 41021418 | | | |
| Site: Camp Ripley | SSOW#: | | | |

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 533 - PFAS in DW by 533 | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | I | | |
| QC-1 | 10/2/24 | 0935 | G | DW | | | X | 2 | |
| FD-01 | 10/2/24 | — | | DW | | | X | 2 | |
| Pine City-01 | 10/3/24 | 1005 | | DW | | | X | 2 | |
| FB-03 | | 1005 | | DW | | | X | 2 | |
| QC-2 | | 1005 | | DW | | | X | 2 | |
| Otsego-01 | | 1150 | | DW | | | X | 2 | |
| Hastings-01 | 10/3/24 | 1430 | G | DW | | | X | 2 | |
| | | | | DW | | | X | 2 | |
| | | | | DW | | | X | 2 | |
| | | | | DW | | | X | 2 | |
| | | | | DW | | | X | 2 | |

No further analysis
Rec'd 10/4/24
0858

| Possible Hazard Identification | Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month) |
|---|---|
| ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological | ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Special Instructions/QC Requirements: |

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| Relinquished by | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|
| | 10/4/24 1034 | | Cooler | | Fedex |
| | | | | | |
| | | | | 10/5/24 1000 | |

| Custody Seals Intact: ☒ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: R3.5-C3.5 R3.5-C1.1 |
|---|---|---|

# Login Sample Receipt Checklist

Client: MN Dept of Military Affairs Facilities Management Office

Job Number: 410-191218-1

**Login Number: 191218**

**List Source: Eurofins Lancaster Laboratories Environment Testing, LLC**

**List Number: 1**

**Creator: Ballard, Megan**

| Question | Answer | Comment |
|---|---|---|
| The cooler's custody seal is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen). | True | |
| Cooler Temperature is recorded. | True | |
| WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen). | N/A | |
| WV: Container Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| There are no discrepancies between the containers received and the COC. | False | Refer to Job Narrative for details. |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| There is sufficient vol. for all requested analyses. | True | |
| Is the Field Sampler's name present on COC? | True | |
| Sample custody seals are intact. | N/A | |
| VOA sample vials do not have headspace >6mm in diameter (none, if from WV)? | N/A | |