AQUA ENVIRONMENTAL LAB
56 Church Hill Road • Newtown, CT 06470 • (203) 270-9973

1st Sample

# Report of Analysis

**Name:** Water System Solutions Design Inc
PO Box 180
Watertown, CT 06795-0180
**Sample Date:** 12/3/2021 11:40 AM
**Receipt Date:** 12/3/2021 12:05 PM
**Report Date:** 12/16/2021
**Sample Site:** Weston School - Municipal - CT1570132

**Sample ID#:** 277317
**Sample Type:** ~~Drinking Water~~
**Sample Source:** Well 4
**Sampler:** RB

| Parameter | Sample Result | Units | Limits | Method | RL | Analysis Date/Time |
|---|---|---|---|---|---|---|
| **Organic Compounds** | | | | | | |
| PerFluoroOctanoic Acid | see attached | ng/L | No Limit Set | EPA 537 | 2 | 12/14/2021 16:52 |

ND = Not Detected
* = Above Specified Limit

**Report Approved by:** _____ CT Lic PH-0787 NY Lic 11706
Lab Director

# Technical Report
# Perfluoroalkyl Substances (PFAS)

prepared for:

**Aqua Environmental Lab**
56 Church Hill Road
Newtown CT, 06470
**Attention: T. Braun**

Report Date: 12/16/2021
**Client Project ID: 277310/277317**
York Project (SDG) No.: 21L0248


CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615
www.YORKLAB.com (203) 325-1371

132-02 89th AVENUE RICHMOND HILL, NY 11418
FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 12/16/2021
Client Project ID: 277310/277317
York Project (SDG) No.: 21L0248

**Aqua Environmental Lab**
56 Church Hill Road
Newtown CT, 06470
Attention: T. Braun

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on December 06, 2021 and listed below. The project was identified as your project: **277310/277317**.

The analyses were conducted utilizing appropriate EPA methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

Please contact Client Services at 203.325.1371 with any questions regarding this report or e-mail clientservices@yorklab.com.

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 21L0248-01 | 277310 | Drinking Water | 12/03/2021 | 12/06/2021 |
| 21L0248-02 | 277310 Field Blank | Drinking Water | 12/03/2021 | 12/06/2021 |
| 21L0248-03 | 277317 | Drinking Water | 12/03/2021 | 12/06/2021 |
| 21L0248-04 | 277317 Field Blank | Drinking Water | 12/03/2021 | 12/06/2021 |

## General Notes for York Project (SDG) No.: 21L0248

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

**Approved By:** Cassie L. Mosher

Cassie L. Mosher
Laboratory Manager

**Date:** 12/16/2021

## Sample Information

**Client Sample ID:** 277310 Field Blank

**York Sample ID:** 21L0248-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 21L0248 | 277310/277317 | Drinking Water | December 3, 2021 11:20 am | 12/06/2021 |

**PFAS, EPA 537.1 List**

Sample Prepared by Method: EPA 537.1 SPE DVB

**Log-in Notes:**

**Sample Notes:**

| CAS No. | Parameter | Result | Flag | Maximum Contaminant Level MCL, ng/L | Units | Reported to LOQ | Reference Method | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| 763051-92-9 | 11CL-PF3OUdS | ND | | 0 | ng/L | 1.67 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:29 | |
| 13252-13-6 | HFPO-DA (Gen-X) | ND | | 0 | ng/L | 1.67 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:29 | |
| 919005-14-4 | ADONA | ND | | 0 | ng/L | 1.67 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:29 | |

| Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|
| *Surrogate: d5-N-EtFOSAA* | *114 %* | *70-130* |
| *Surrogate: 13C-PFDA* | *103 %* | *70-130* |
| *Surrogate: 13C-PFHxA* | *100 %* | *70-130* |
| *Surrogate: M3HFPO-DA* | *97.2 %* | *70-130* |

## Sample Information

**Client Sample ID:** 277317

**York Sample ID:** 21L0248-03

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 21L0248 | 277310/277317 | Drinking Water | December 3, 2021 11:40 am | 12/06/2021 |

**PFAS, EPA 537.1 List**

Sample Prepared by Method: EPA 537.1 SPE DVB

**Log-in Notes:**

**Sample Notes:**

| CAS No. | Parameter | Result | Flag | Maximum Contaminant Level MCL, ng/L | Units | Reported to LOQ | Reference Method | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| 375-73-5 | **Perfluorobutanesulfonic acid (PFBS)** | **1.76** | | **0** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 307-24-4 | **Perfluorohexanoic acid (PFHxA)** | **4.95** | | **0** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 375-85-9 | **Perfluoroheptanoic acid (PFHpA)** | **3.03** | | **0** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 355-46-4 | **Perfluorohexanesulfonic acid (PFHxS)** | **2.04** | | **0** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 335-67-1 | **Perfluorooctanoic acid (PFOA)** | **9.08** | | **10** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | NELAC-NY12058 | | 12/15/2021 20:43 | |
| 1763-23-1 | **Perfluorooctanesulfonic acid (PFOS)** | **16.8** | PFOS-X | **10** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | NELAC-NY12058 | | 12/15/2021 20:43 | |
| 375-95-1 | **Perfluorononanoic acid (PFNA)** | **1.90** | | **0** | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 335-76-2 | Perfluorodecanoic acid (PFDA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |

## Sample Information

**Client Sample ID:** 277317

**York Project (SDG) No.:** 21L0248

**Client Project ID:** 277310/277317

**York Sample ID:** 21L0248-03

| Matrix | Collection Date/Time | Date Received |
|---|---|---|
| Drinking Water | December 3, 2021 11:40 am | 12/06/2021 |

**PFAS, EPA 537.1 List**

Sample Prepared by Method: EPA 537.1 SPE DVB

**Log-in Notes:**

**Sample Notes:**

| CAS No. | Parameter | Result | Flag | Maximum Contaminant Level MCL, ng/L | Units | Reported to LOQ | Reference Method | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| 2058-94-8 | Perfluoroundecanoic acid (PFUnA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 307-55-1 | Perfluorododecanoic acid (PFDoA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 72629-94-8 | Perfluorotridecanoic acid (PFTrDA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 376-06-7 | Perfluorotetradecanoic acid (PFTA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 2355-31-9 | N-MeFOSAA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 2991-50-6 | N-EtFOSAA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 756426-58-1 | 9CL-PF3ONS | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 763051-92-9 | 11CL-PF3OUdS | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 13252-13-6 | HFPO-DA (Gen-X) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |
| 919005-14-4 | ADONA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:43 | |

| Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|
| *Surrogate: d5-N-EtFOSAA* | *105 %* | *70-130* |
| *Surrogate: 13C-PFDA* | *101 %* | *70-130* |
| *Surrogate: 13C-PFHxA* | *99.3 %* | *70-130* |
| *Surrogate: M3HFPO-DA* | *97.7 %* | *70-130* |

## Sample Information

**Client Sample ID:** 277317 Field Blank

**York Project (SDG) No.:** 21L0248

**Client Project ID:** 277310/277317

**York Sample ID:** 21L0248-04

| Matrix | Collection Date/Time | Date Received |
|---|---|---|
| Drinking Water | December 3, 2021 11:40 am | 12/06/2021 |

**PFAS, EPA 537.1 List**

Sample Prepared by Method: EPA 537.1 SPE DVB

**Log-in Notes:**

**Sample Notes:**

| CAS No. | Parameter | Result | Flag | Maximum Contaminant Level MCL, ng/L | Units | Reported to LOQ | Reference Method | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| 375-73-5 | Perfluorobutanesulfonic acid (PFBS) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 307-24-4 | Perfluorohexanoic acid (PFHxA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |

## Sample Information

**Client Sample ID:** 277317 Field Blank

**York Sample ID:** 21L0248-04

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 21L0248 | 277310/277317 | Drinking Water | December 3, 2021 11:40 am | 12/06/2021 |

**PFAS, EPA 537.1 List**

Sample Prepared by Method: EPA 537.1 SPE DVB

**Log-in Notes:**

**Sample Notes:**

| CAS No. | Parameter | Result | Flag | Maximum Contaminant Level MCL, ng/L | Units | Reported to LOQ | Reference Method | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| 375-85-9 | Perfluoroheptanoic acid (PFHpA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 355-46-4 | Perfluorohexanesulfonic acid (PFHxS) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | ND | | 10 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | NELAC-NY12058 | | 12/15/2021 20:56 | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | ND | | 10 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | NELAC-NY12058 | | 12/15/2021 20:56 | |
| 375-95-1 | Perfluorononanoic acid (PFNA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 335-76-2 | Perfluorodecanoic acid (PFDA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 2058-94-8 | Perfluoroundecanoic acid (PFUnA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 307-55-1 | Perfluorododecanoic acid (PFDoA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 72629-94-8 | Perfluorotridecanoic acid (PFTrDA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 376-06-7 | Perfluorotetradecanoic acid (PFTA) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 2355-31-9 | N-MeFOSAA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 2991-50-6 | N-EtFOSAA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 756426-58-1 | 9CL-PF3ONS | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 763051-92-9 | 11CL-PF3OUdS | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 13252-13-6 | HFPO-DA (Gen-X) | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |
| 919005-14-4 | ADONA | ND | | 0 | ng/L | 1.56 | EPA 537.1 | 12/14/2021 11:08 | WL |
| | | | | | Certifications: | | | 12/15/2021 20:56 | |

| Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|
| *Surrogate: d5-N-EtFOSAA* | *115 %* | *70-130* |
| *Surrogate: 13C-PFDA* | *98.0 %* | *70-130* |
| *Surrogate: 13C-PFHxA* | *82.0 %* | *70-130* |
| *Surrogate: M3HFPO-DA* | *81.9 %* | *70-130* |

# Analytical Batch Summary

**Batch ID:** BL12027 **Preparation Method:** EPA 537.1 SPE DVB **Prepared By:** ER

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 21L0248-01 | 277310 | 12/14/21 |
| 21L0248-02 | 277310 Field Blank | 12/14/21 |
| 21L0248-03 | 277317 | 12/14/21 |
| 21L0248-04 | 277317 Field Blank | 12/14/21 |
| BL12027-BLK1 | Blank | 12/14/21 |
| BL12027-BS1 | LCS | 12/14/21 |
| BL12027-BS2 | LCS | 12/14/21 |
| BL12027-DUP1 | Duplicate | 12/14/21 |
| BL12027-MS1 | Matrix Spike | 12/14/21 |

## PFAS Target compounds by LC/MS-MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL12027 - EPA 537.1 SPE DVB** | | | | | | | | | | | |
| **Blank (BL12027-BLK1)** | | | | | | | | | | | |
| Prepared: 12/14/2021 Analyzed: 12/15/2021 | | | | | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 2.00 | ng/L | | | | | | | | |
| Perfluorohexanoic acid (PFHxA) | ND | 2.00 | " | | | | | | | | |
| Perfluoroheptanoic acid (PFHpA) | ND | 2.00 | " | | | | | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 2.00 | " | | | | | | | | |
| Perfluorooctanoic acid (PFOA) | ND | 2.00 | " | | | | | | | | |
| Perfluorooctanesulfonic acid (PFOS) | ND | 2.00 | " | | | | | | | | |
| Perfluorononanoic acid (PFNA) | ND | 2.00 | " | | | | | | | | |
| Perfluorodecanoic acid (PFDA) | ND | 2.00 | " | | | | | | | | |
| Perfluoroundecanoic acid (PFUnA) | ND | 2.00 | " | | | | | | | | |
| Perfluorododecanoic acid (PFDoA) | ND | 2.00 | " | | | | | | | | |
| Perfluorotridecanoic acid (PFTrDA) | ND | 2.00 | " | | | | | | | | |
| Perfluorotetradecanoic acid (PFTA) | ND | 2.00 | " | | | | | | | | |
| N-MeFOSAA | ND | 2.00 | " | | | | | | | | |
| N-EtFOSAA | ND | 2.00 | " | | | | | | | | |
| 9CL-PF3ONS | ND | 2.00 | " | | | | | | | | |
| 11CL-PF3OUdS | ND | 2.00 | " | | | | | | | | |
| HFPO-DA (Gen-X) | ND | 2.00 | " | | | | | | | | |
| ADONA | ND | 2.00 | " | | | | | | | | |
| *Surrogate: d5-N-EtFOSAA* | *412* | | " | *320* | | *129* | *70-130* | | | | |
| *Surrogate: 13C-PFDA* | *93.0* | | " | *80.0* | | *116* | *70-130* | | | | |
| *Surrogate: 13C-PFHxA* | *85.4* | | " | *80.0* | | *107* | *70-130* | | | | |
| *Surrogate: M3HFPO-DA* | *86.4* | | " | *80.0* | | *108* | *70-130* | | | | |
| **LCS (BL12027-BS1)** | | | | | | | | | | | |
| Prepared: 12/14/2021 Analyzed: 12/15/2021 | | | | | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | 59.5 | 2.00 | ng/L | 70.8 | | 84.1 | 70-130 | | | | |
| Perfluorohexanoic acid (PFHxA) | 74.1 | 2.00 | " | 80.0 | | 92.6 | 70-130 | | | | |
| Perfluoroheptanoic acid (PFHpA) | 76.3 | 2.00 | " | 80.0 | | 95.4 | 70-130 | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 68.1 | 2.00 | " | 76.0 | | 89.5 | 70-130 | | | | |
| Perfluorooctanoic acid (PFOA) | 74.1 | 2.00 | " | 80.0 | | 92.7 | 70-130 | | | | |
| Perfluorooctanesulfonic acid (PFOS) | 70.1 | 2.00 | " | 76.8 | | 91.3 | 70-130 | | | | |
| Perfluorononanoic acid (PFNA) | 74.4 | 2.00 | " | 80.0 | | 93.0 | 70-130 | | | | |
| Perfluorodecanoic acid (PFDA) | 76.4 | 2.00 | " | 80.0 | | 95.5 | 70-130 | | | | |
| Perfluoroundecanoic acid (PFUnA) | 75.6 | 2.00 | " | 80.0 | | 94.5 | 70-130 | | | | |
| Perfluorododecanoic acid (PFDoA) | 85.7 | 2.00 | " | 80.0 | | 107 | 70-130 | | | | |
| Perfluorotridecanoic acid (PFTrDA) | 88.7 | 2.00 | " | 80.0 | | 111 | 70-130 | | | | |
| Perfluorotetradecanoic acid (PFTA) | 73.9 | 2.00 | " | 80.0 | | 92.3 | 70-130 | | | | |
| N-MeFOSAA | 77.7 | 2.00 | " | 80.0 | | 97.1 | 70-130 | | | | |
| N-EtFOSAA | 78.5 | 2.00 | " | 80.0 | | 98.2 | 70-130 | | | | |
| 9CL-PF3ONS | 64.9 | 2.00 | " | 74.8 | | 86.8 | 60-130 | | | | |
| 11CL-PF3OUdS | 73.1 | 2.00 | " | 75.6 | | 96.6 | 60-130 | | | | |
| HFPO-DA (Gen-X) | 74.3 | 2.00 | " | 80.0 | | 92.9 | 60-130 | | | | |
| ADONA | 72.2 | 2.00 | " | 75.6 | | 95.6 | 60-130 | | | | |
| *Surrogate: d5-N-EtFOSAA* | *359* | | " | *320* | | *112* | *70-130* | | | | |
| *Surrogate: 13C-PFDA* | *84.6* | | " | *80.0* | | *106* | *70-130* | | | | |
| *Surrogate: 13C-PFHxA* | *83.9* | | " | *80.0* | | *105* | *70-130* | | | | |
| *Surrogate: M3HFPO-DA* | *83.2* | | " | *80.0* | | *104* | *70-130* | | | | |

## PFAS Target compounds by LC/MS-MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL12027 - EPA 537.1 SPE DVB** | | | | | | | | | | | |
| **LCS (BL12027-BS2)** | | | | | | | | | | | |
| | | | | | | | | Prepared: 12/14/2021 Analyzed: 12/15/2021 | | | |
| Perfluorobutanesulfonic acid (PFBS) | 27.3 | 2.00 | ng/L | 35.4 | | 77.1 | 70-130 | | | | |
| Perfluorohexanoic acid (PFHxA) | 34.1 | 2.00 | " | 40.0 | | 85.3 | 70-130 | | | | |
| Perfluoroheptanoic acid (PFHpA) | 35.2 | 2.00 | " | 40.0 | | 87.9 | 70-130 | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 32.8 | 2.00 | " | 38.0 | | 86.2 | 70-130 | | | | |
| Perfluorooctanoic acid (PFOA) | 35.0 | 2.00 | " | 40.0 | | 87.5 | 70-130 | | | | |
| Perfluorooctanesulfonic acid (PFOS) | 32.8 | 2.00 | " | 38.4 | | 85.5 | 70-130 | | | | |
| Perfluorononanoic acid (PFNA) | 35.7 | 2.00 | " | 40.0 | | 89.2 | 70-130 | | | | |
| Perfluorodecanoic acid (PFDA) | 35.9 | 2.00 | " | 40.0 | | 89.7 | 70-130 | | | | |
| Perfluoroundecanoic acid (PFUnA) | 33.4 | 2.00 | " | 40.0 | | 83.5 | 70-130 | | | | |
| Perfluorododecanoic acid (PFDoA) | 37.2 | 2.00 | " | 40.0 | | 93.1 | 70-130 | | | | |
| Perfluorotridecanoic acid (PFTrDA) | 41.7 | 2.00 | " | 40.0 | | 104 | 70-130 | | | | |
| Perfluorotetradecanoic acid (PFTA) | 34.0 | 2.00 | " | 40.0 | | 85.0 | 70-130 | | | | |
| N-MeFOSAA | 38.1 | 2.00 | " | 40.0 | | 95.3 | 70-130 | | | | |
| N-EtFOSAA | 38.2 | 2.00 | " | 40.0 | | 95.5 | 70-130 | | | | |
| 9CL-PF3ONS | 31.1 | 2.00 | " | 37.4 | | 83.1 | 60-130 | | | | |
| 11CL-PF3OUdS | 32.3 | 2.00 | " | 37.8 | | 85.4 | 60-130 | | | | |
| HFPO-DA (Gen-X) | 34.1 | 2.00 | " | 40.0 | | 85.4 | 60-130 | | | | |
| ADONA | 33.1 | 2.00 | " | 37.8 | | 87.6 | 60-130 | | | | |
| *Surrogate: d5-N-EtFOSAA* | *393* | | " | *320* | | *123* | *70-130* | | | | |
| *Surrogate: 13C-PFDA* | *88.7* | | " | *80.0* | | *111* | *70-130* | | | | |
| *Surrogate: 13C-PFHxA* | *84.8* | | " | *80.0* | | *106* | *70-130* | | | | |
| *Surrogate: M3HFPO-DA* | *86.6* | | " | *80.0* | | *108* | *70-130* | | | | |
| **Duplicate (BL12027-DUP1)** | *Source sample: 21L0272-02 (Duplicate) | | | | | | | | | | |
| | | | | | | | | Prepared: 12/14/2021 Analyzed: 12/15/2021 | | | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.67 | ng/L | | ND | | | | | 25 | |
| Perfluorohexanoic acid (PFHxA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorooctanoic acid (PFOA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorononanoic acid (PFNA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorodecanoic acid (PFDA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorotridecanoic acid (PFTrDA) | ND | 1.67 | " | | ND | | | | | 25 | |
| Perfluorotetradecanoic acid (PFTA) | ND | 1.67 | " | | ND | | | | | 25 | |
| N-MeFOSAA | ND | 1.67 | " | | ND | | | | | 25 | |
| N-EtFOSAA | ND | 1.67 | " | | ND | | | | | 25 | |
| 9CL-PF3ONS | ND | 1.67 | " | | ND | | | | | 25 | |
| 11CL-PF3OUdS | ND | 1.67 | " | | ND | | | | | 25 | |
| HFPO-DA (Gen-X) | ND | 1.67 | " | | ND | | | | | 25 | |
| ADONA | ND | 1.67 | " | | ND | | | | | 25 | |
| *Surrogate: d5-N-EtFOSAA* | *301* | | " | *267* | | *113* | *70-130* | | | | |
| *Surrogate: 13C-PFDA* | *72.1* | | " | *66.7* | | *108* | *70-130* | | | | |
| *Surrogate: 13C-PFHxA* | *69.3* | | " | *66.7* | | *104* | *70-130* | | | | |
| *Surrogate: M3HFPO-DA* | *66.0* | | " | *66.7* | | *99.1* | *70-130* | | | | |

## PFAS Target compounds by LC/MS-MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL12027 - EPA 537.1 SPE DVB** | | | | | | | | | | | |
| **Matrix Spike (BL12027-MS1)** | *Source sample: 21L0267-01 (Matrix Spike) | | | | | | | | Prepared: 12/14/2021 Analyzed: 12/15/2021 | | |
| Perfluorobutanesulfonic acid (PFBS) | 42.0 | 1.56 | ng/L | 55.3 | ND | 75.9 | 70-130 | | | | |
| Perfluorohexanoic acid (PFHxA) | 55.0 | 1.56 | " | 62.5 | ND | 88.0 | 70-130 | | | | |
| Perfluoroheptanoic acid (PFHpA) | 59.5 | 1.56 | " | 62.5 | ND | 95.3 | 70-130 | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | 53.2 | 1.56 | " | 59.4 | ND | 89.7 | 70-130 | | | | |
| Perfluorooctanoic acid (PFOA) | 59.2 | 1.56 | " | 62.5 | ND | 94.7 | 70-130 | | | | |
| Perfluorooctanesulfonic acid (PFOS) | 55.6 | 1.56 | " | 60.0 | ND | 92.7 | 70-130 | | | | |
| Perfluorononanoic acid (PFNA) | 58.2 | 1.56 | " | 62.5 | ND | 93.1 | 70-130 | | | | |
| Perfluorodecanoic acid (PFDA) | 61.8 | 1.56 | " | 62.5 | ND | 98.8 | 70-130 | | | | |
| Perfluoroundecanoic acid (PFUnA) | 58.0 | 1.56 | " | 62.5 | ND | 92.9 | 70-130 | | | | |
| Perfluorododecanoic acid (PFDoA) | 55.8 | 1.56 | " | 62.5 | ND | 89.4 | 70-130 | | | | |
| Perfluorotridecanoic acid (PFTrDA) | 50.5 | 1.56 | " | 62.5 | ND | 80.8 | 70-130 | | | | |
| Perfluorotetradecanoic acid (PFTA) | 54.6 | 1.56 | " | 62.5 | ND | 87.3 | 70-130 | | | | |
| N-MeFOSAA | 60.9 | 1.56 | " | 62.5 | ND | 97.4 | 70-130 | | | | |
| N-EtFOSAA | 54.7 | 1.56 | " | 62.5 | ND | 87.5 | 70-130 | | | | |
| 9CL-PF3ONS | 52.7 | 1.56 | " | 58.4 | ND | 90.2 | 70-130 | | | | |
| 11CL-PF3OUdS | 52.9 | 1.56 | " | 59.1 | ND | 89.5 | 70-130 | | | | |
| HFPO-DA (Gen-X) | 54.1 | 1.56 | " | 62.5 | ND | 86.5 | 70-130 | | | | |
| ADONA | 55.7 | 1.56 | " | 59.1 | ND | 94.2 | 50-130 | | | | |
| *Surrogate: d5-N-EtFOSAA* | *265* | | " | *250* | | *106* | *70-130* | | | | |
| *Surrogate: 13C-PFDA* | *68.4* | | " | *62.5* | | *109* | *70-130* | | | | |
| *Surrogate: 13C-PFHxA* | *64.0* | | " | *62.5* | | *102* | *70-130* | | | | |
| *Surrogate: M3HFPO-DA* | *62.8* | | " | *62.5* | | *100* | *70-130* | | | | |


YORK

## Sample and Data Qualifiers Relating to This Work Order

| | |
|---|---|
| PFOS-X | The level of PFOS detected in this sample exceeds the NYSDOH Maximum Contaminant Level of 10 ng/L) |
| PFOA-X | The level of PFOA in this sample exceeds the NYSDOH Maximum Contaminant Level of 10 ng/L) |

## Definitions and Other Explanations

| | |
|---|---|
| * | Analyte is not certified or the state of the samples origination does not offer certification for the Analyte. |
| ND | NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL) |
| RL | REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve. |
| LOQ | LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses. |
| LOD | LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846. |
| MDL | METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods. |
| Reported to | This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only. |
| NR | Not reported |
| RPD | Relative Percent Difference |
| Wet | The data has been reported on an as-received (wet weight) basis |
| Low Bias | Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| High Bias | High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias. |
| Non-Dir. | Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons. |
| MCL | This is the Maximum Contaminant Level in ng/L (ppt) establised by the NYSDOH for these compounds wheree an MCL is reported. Exceedences are flagged according. |

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# Field Chain-of-Custody Record

**NOTE:** YORK's Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No.: 21L0248

Page ____ of ____

| YOUR Information | Report To: | Invoice To: | YOUR Project Number | Turn-Around Time |
|---|---|---|---|---|
| Company: | Company: Aqua Environmental Lab | Company: | | RUSH - Next Day |
| Address: | Address: 56 Church Hill Rd, Newtown CT 06470 | Address: | YOUR Project Name | RUSH - Two Day |
| Phone.: | Phone.: | Phone.: | | RUSH - Three Day |
| Contact: | Contact: | Contact: | | RUSH - Four Day |
| E-mail: | E-mail: | E-mail: | YOUR PO#: | Standard (5-7 Day) |

***Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.***

Samples Collected by: (print your name above and sign below)

**Matrix Codes**: S - soil / solid; GW - groundwater; DW - drinking water; WW - wastewater; O - Oil ⋮ Other

**Samples From**: New York; New Jersey; Connecticut ✓; Pennsylvania; Other

**Report / EDD Type** (circle selections): Summary Report; QA Report; NY ASP A Package; NY ASP B Package; CT RCP; CT RCP DQA/DUE; NJDEP Reduced Deliverables; NJDKQP; Standard Excel EDD; EQuIS (Standard); NYSDEC EQuIS; NJDEP SRP HazSite; Other:

**YORK Reg. Comp.**: Compared to the following Regulation(s): (please fill in)

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| 277310 | Dw | 12/3/21 11:20 am | PFAS - 18 | |
| 277317 | 1 | 1 11:45 am | 1 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Comments:**

**Preservation:** (check all that apply)
HCl ___ MeOH ___ $HNO_3$ ___ $H_2SO_4$ ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: ___

**Special Instruction**: Field Filtered ___ Lab to Filter ___

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
|---|---|---|---|
| [illegible] | 12-6-21 837 am | | |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
| | | | |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| | | | |
| Samples Received by / Company | Date/Time | Samples Received by / Company | Date/Time |
| | | | |
| Samples Received in LAB by | Date/Time | Temp. Received at Lab | |
| Tgale | 12/6/21 0837 | 6.0 Degrees C | |

**York Analytcal Laboratories , Inc.**

**EXCEEDANCE ALERT for Potable Water**

York Work Order No.21L0248

***The following samples exhibited Levels that exceeded the MCL or other Regulatory Limit***

| Client: | Client Project | Client Project Number(s) |
|---|---|---|
| **Aqua Environmental Lab** | PFAS in Potable Water | 277310/277317 |

| Lab ID | Client Sample | Analyte | Result | Units | MCL Limit, where applicable |
|---|---|---|---|---|---|
| 21L0248-03 | 277317 | **Perfluorooctanesulfonic acid (PFOS)** | **16.8** | ng/L | **10** |
| 21L0248-01 | 277310 | **Perfluorooctanoic acid (PFOA)** | **13.3** | ng/L | **10** |
| 21L0248-01 | 277310 | **Perfluorooctanesulfonic acid (PFOS)** | **23.2** | ng/L | **10** |