

Thursday, May 26, 2022

Mary Lynn Semegen  
Great Lakes Water Authority  
10100 East Jefferson Ave.  
Detroit, MI 48214

Workorder: 377540  
Project Name: Annual PFAS Great Lakes Water Authority WTPs  
Purchase Order: 0023659

Mary Semegen,  
Paragon Laboratories, Inc. received the samples associated with the workorder listed above for the analyses presented in the following report. The analyses pertain only to the aliquot of sample received.

This material is confidential and is intended solely for the person to whom it is addressed. If this is received in error, please contact the number below.

Please note that any unused portion of the sample(s) will be discarded 40 days after sample receipt, unless requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact me at 734.469.5619.

Sincerely,



Elizabeth Pangborn  
Account Coordination Team Leader

## GLOSSARY

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| Abbreviation | Meaning                | Explanation   |
|--------------|------------------------|---|
| ID           | Identification         | Preceded by "Lab", it describes the unique 10-digit sample number assigned by the laboratory. Preceded by "Sample", it describes the client-specified sample identifier.      |
| Qual         | Qualifier              | Column that populates with an asterisk (*) when a related narrative comment appears in the Workorder Summary.   |
| RL           | Reporting Limit        | The value at or above which a result is routinely reported.   |
| MDL          | Method Detection Limit | The minimum measured concentration that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.                     |
| DF           | Dilution Factor        | The dilution applied to the sample during analysis to arrive at the final reported analyte result.  |
| Min          | Minimum                | The minimum value that a result can be to meet the applicable specification, regulatory, permit, or client-specified limit.   |
| Max          | Maximum                | The maximum value that a result can be to meet the applicable specification, regulatory, permit, or client-specified limit.   |
| (S)          | Surrogate              | A compound that is added to the sample to mimic one or more compounds of interest. Its recovery is used to evaluate the efficiency of recovering the compound(s) of interest. |
| <            | Less Than              | Symbol that indicates that a result is less than the value following it.  |
| >            | Greater Than           | Symbol that indicates that a result is greater than the value following it.   |

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## SAMPLE SUMMARY

| Lab ID     | Sample ID                  | Sample Description | Matrix | Date Collected   | Date Received    | Collector |
|------------|----------------------------|--------------------|--------|------------------|------------------|-----------|
| 3775400001 | Water Works Park Plant-Tap | Field Blank        | D      | 05/10/2022 07:24 | 05/11/2022 15:47 | N. Taylor |
| 3775400002 | Water Works Park Plant-Tap | Grab               | D      | 05/10/2022 07:24 | 05/11/2022 15:47 | N. Taylor |
| 3775400003 | Springwells Plant-Tap      | Field Blank        | D      | 05/10/2022 14:45 | 05/11/2022 15:47 | N. Taylor |
| 3775400004 | Springwells Plant-Tap      | Grab               | D      | 05/10/2022 14:45 | 05/11/2022 15:47 | N. Taylor |
| 3775400005 | Southwest Plant-Tap        | Field Blank        | D      | 05/10/2022 16:03 | 05/11/2022 15:47 | N. Taylor |
| 3775400006 | Southwest Plant-Tap        | Grab               | D      | 05/10/2022 16:03 | 05/11/2022 15:47 | N. Taylor |
| 3775400007 | Northeast Plant-Tap        | Field Blank        | D      | 05/10/2022 13:00 | 05/11/2022 15:47 | N. Taylor |
| 3775400008 | Northeast Plant-Tap        | Grab               | D      | 05/10/2022 13:00 | 05/11/2022 15:47 | N. Taylor |
| 3775400009 | Lake Huron Plant-Tap       | Field Blank        | D      | 05/10/2022 11:28 | 05/11/2022 15:47 | N. Taylor |
| 3775400010 | Lake Huron Plant-Tap       | Grab               | D      | 05/10/2022 11:28 | 05/11/2022 15:47 | N. Taylor |

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# WORKORDER SUMMARY

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## Accreditations

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Paragon Laboratories, Inc. is certified by the Michigan Department of Environment, Great Lakes, and Energy to analyze Drinking Water. (EGLE Lab No. 9901 Expires 2/25/2023)

## Workorder Narrative

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### General Comments:

Samples were received chilled on natural ice with an average temperature of 7.8 °C on May 11th, 2022.

### Surrogate Results Narrative

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3775400002 - Water Works Park Plant-Tap - d5-NEtFOSAA

Surrogate recovery is below the lower control limit, possibly due to matrix interferences.

3775400003 - Springwells Plant-Tap - 13C-PFHxA

Surrogate recovery is below the lower control limit, possibly due to matrix interferences.

3775400005 - Southwest Plant-Tap - 13C-PFHxA

Surrogate recovery is below the lower control limit, possibly due to matrix interferences.

3775400009 - Lake Huron Plant-Tap - 13C-PFHxA

Surrogate recovery is below the lower control limit, possibly due to matrix interferences.

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# ANALYTICAL RESULTS

Lab ID: 3775400001  
 Sample ID: Water Works Park Plant-Tap  
 Description: Field Blank

Date Collected: 05/10/2022 07:24  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|-----|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |     |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/17/2022 23:41 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |     | 05/17/2022 23:41 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |     | 05/17/2022 23:41 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     |     | 05/17/2022 23:41 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |     | 05/17/2022 23:41 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |     | 05/17/2022 23:41 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |     | 05/17/2022 23:41 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 28           | 70               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 40           | 101              | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 29           | 72               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 120          | 78               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |                  |     |
|----------------------|----------|--|--|--|---|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400002  
 Sample ID: Water Works Park Plant-Tap  
 Description: Grab

Date Collected: 05/10/2022 07:24  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max    | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|--------|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |        |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |        | 05/17/2022 23:18 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |        | 05/17/2022 23:18 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |        | 05/17/2022 23:18 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     | 370    | 05/17/2022 23:18 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |        | 05/17/2022 23:18 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     | 420    | 05/17/2022 23:18 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     | 400000 | 05/17/2022 23:18 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     | 51     | 05/17/2022 23:18 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     | 6      | 05/17/2022 23:18 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     | 8      | 05/17/2022 23:18 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     | 16     | 05/17/2022 23:18 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |        | 05/17/2022 23:18 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |        | 05/17/2022 23:18 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 29           | 72               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 37           | 93               | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 35           | 88               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 110          | 66               | 70 - 130       | *    |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |  |                  |     |
|----------------------|----------|--|--|--|---|--|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 |  | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|--|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400003  
 Sample ID: Springwells Plant-Tap  
 Description: Field Blank

Date Collected: 05/10/2022 14:45  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|-----|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |     |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/18/2022 00:27 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |     | 05/18/2022 00:27 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |     | 05/18/2022 00:27 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     |     | 05/18/2022 00:27 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |     | 05/18/2022 00:27 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |     | 05/18/2022 00:27 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |     | 05/18/2022 00:27 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 30           | 75               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 39           | 96               | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 21           | 53               | 70 - 130       | *    |
| d5-NEtFOSAA (S) | ng/L | 160           | 120          | 78               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |                  |     |
|----------------------|----------|--|--|--|---|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400004  
 Sample ID: Springwells Plant-Tap  
 Description: Grab

Date Collected: 05/10/2022 14:45  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max    | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|--------|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |        |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |        | 05/18/2022 00:04 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |        | 05/18/2022 00:04 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |        | 05/18/2022 00:04 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     | 370    | 05/18/2022 00:04 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |        | 05/18/2022 00:04 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     | 420    | 05/18/2022 00:04 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     | 400000 | 05/18/2022 00:04 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     | 51     | 05/18/2022 00:04 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     | 6      | 05/18/2022 00:04 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     | 8      | 05/18/2022 00:04 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     | 16     | 05/18/2022 00:04 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |        | 05/18/2022 00:04 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |        | 05/18/2022 00:04 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 32           | 81               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 38           | 96               | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 32           | 79               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 120          | 74               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |  |                  |     |
|----------------------|----------|--|--|--|---|--|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 |  | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|--|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400005  
 Sample ID: Southwest Plant-Tap  
 Description: Field Blank

Date Collected: 05/10/2022 16:03  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|-----|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |     |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/18/2022 01:13 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |     | 05/18/2022 01:13 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |     | 05/18/2022 01:13 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     |     | 05/18/2022 01:13 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |     | 05/18/2022 01:13 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |     | 05/18/2022 01:13 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |     | 05/18/2022 01:13 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 31           | 77               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 41           | 103              | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 23           | 57               | 70 - 130       | *    |
| d5-NEtFOSAA (S) | ng/L | 160           | 130          | 82               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |                  |     |
|----------------------|----------|--|--|--|---|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400006  
 Sample ID: Southwest Plant-Tap  
 Description: Grab

Date Collected: 05/10/2022 16:03  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max    | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|--------|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |        |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |        | 05/18/2022 00:50 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |        | 05/18/2022 00:50 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |        | 05/18/2022 00:50 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     | 370    | 05/18/2022 00:50 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |        | 05/18/2022 00:50 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     | 420    | 05/18/2022 00:50 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     | 400000 | 05/18/2022 00:50 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     | 51     | 05/18/2022 00:50 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     | 6      | 05/18/2022 00:50 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     | 8      | 05/18/2022 00:50 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     | 16     | 05/18/2022 00:50 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |        | 05/18/2022 00:50 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |        | 05/18/2022 00:50 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 29           | 74               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 40           | 101              | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 30           | 74               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 130          | 80               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |  |                  |     |
|----------------------|----------|--|--|--|---|--|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 |  | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|--|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400007  
 Sample ID: Northeast Plant-Tap  
 Description: Field Blank

Date Collected: 05/10/2022 13:00  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result   | Qual | Unit        | RL       | MDL         | DF       | Min | Max | Analyzed                | By         |
|---|----------|------|-------------|----------|-------------|----------|-----|-----|-------------------------|------------|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |          |      |             |          |             |          |     |     |                         |            |
| 11CI-PF3OUdS                                | <2       |      | ng/L        | 2        | 0.42        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| 9CI-PF3ONS                                  | <2       |      | ng/L        | 2        | 0.44        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| ADONA                                       | <2       |      | ng/L        | 2        | 0.56        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| HFPO-DA                                     | <2       |      | ng/L        | 2        | 0.30        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| NEtFOSAA                                    | <2       |      | ng/L        | 2        | 0.54        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| NMeFOSAA                                    | <2       |      | ng/L        | 2        | 0.61        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFBS  | <2       |      | ng/L        | 2        | 0.35        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFDA  | <2       |      | ng/L        | 2        | 0.46        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFDoA                                       | <2       |      | ng/L        | 2        | 0.34        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFHpA                                       | <2       |      | ng/L        | 2        | 0.47        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFHxA                                       | <2       |      | ng/L        | 2        | 0.42        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFHxS                                       | <2       |      | ng/L        | 2        | 0.49        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFNA  | <2       |      | ng/L        | 2        | 0.32        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFOA  | <2       |      | ng/L        | 2        | 0.40        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| <b>PFOS</b>                                 | <b>3</b> |      | <b>ng/L</b> | <b>2</b> | <b>0.49</b> | <b>1</b> |     |     | <b>05/18/2022 01:59</b> | <b>JKP</b> |
| PFTeDA                                      | <2       |      | ng/L        | 2        | 0.55        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFTrDA                                      | <2       |      | ng/L        | 2        | 0.39        | 1        |     |     | 05/18/2022 01:59        | JKP        |
| PFUnDA                                      | <2       |      | ng/L        | 2        | 0.59        | 1        |     |     | 05/18/2022 01:59        | JKP        |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 29           | 72               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 41           | 101              | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 32           | 80               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 130          | 83               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |                  |     |
|----------------------|----------|--|--|--|---|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400008  
 Sample ID: Northeast Plant-Tap  
 Description: Grab

Date Collected: 05/10/2022 13:00  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max    | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|--------|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |        |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |        | 05/24/2022 02:17 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |        | 05/24/2022 02:17 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |        | 05/24/2022 02:17 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     | 370    | 05/24/2022 02:17 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |        | 05/24/2022 02:17 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     | 420    | 05/24/2022 02:17 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     | 400000 | 05/24/2022 02:17 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     | 51     | 05/24/2022 02:17 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     | 6      | 05/24/2022 02:17 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     | 8      | 05/24/2022 02:17 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     | 16     | 05/24/2022 02:17 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |        | 05/24/2022 02:17 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |        | 05/24/2022 02:17 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 31           | 77               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 36           | 90               | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 33           | 83               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 120          | 75               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |  |                  |     |
|----------------------|----------|--|--|--|---|--|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 |  | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|--|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400009  
 Sample ID: Lake Huron Plant-Tap  
 Description: Field Blank

Date Collected: 05/10/2022 11:28  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result   | Qual | Unit        | RL       | MDL         | DF       | Min | Max | Analyzed                | By         |
|---|----------|------|-------------|----------|-------------|----------|-----|-----|-------------------------|------------|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |          |      |             |          |             |          |     |     |                         |            |
| 11CI-PF3OUdS                                | <2       |      | ng/L        | 2        | 0.42        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| 9CI-PF3ONS                                  | <2       |      | ng/L        | 2        | 0.44        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| ADONA                                       | <2       |      | ng/L        | 2        | 0.56        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| HFPO-DA                                     | <2       |      | ng/L        | 2        | 0.30        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| NEtFOSAA                                    | <2       |      | ng/L        | 2        | 0.54        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| NMeFOSAA                                    | <2       |      | ng/L        | 2        | 0.61        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFBS  | <2       |      | ng/L        | 2        | 0.35        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFDA  | <2       |      | ng/L        | 2        | 0.46        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFDoA                                       | <2       |      | ng/L        | 2        | 0.34        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFHpA                                       | <2       |      | ng/L        | 2        | 0.47        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFHxA                                       | <2       |      | ng/L        | 2        | 0.42        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFHxS                                       | <2       |      | ng/L        | 2        | 0.49        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFNA  | <2       |      | ng/L        | 2        | 0.32        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFOA  | <2       |      | ng/L        | 2        | 0.40        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| <b>PFOS</b>                                 | <b>2</b> |      | <b>ng/L</b> | <b>2</b> | <b>0.49</b> | <b>1</b> |     |     | <b>05/18/2022 02:46</b> | <b>JKP</b> |
| PFTeDA                                      | <2       |      | ng/L        | 2        | 0.55        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFTrDA                                      | <2       |      | ng/L        | 2        | 0.39        | 1        |     |     | 05/18/2022 02:46        | JKP        |
| PFUnDA                                      | <2       |      | ng/L        | 2        | 0.59        | 1        |     |     | 05/18/2022 02:46        | JKP        |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 31           | 78               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 41           | 103              | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 24           | 59               | 70 - 130       | *    |
| d5-NEtFOSAA (S) | ng/L | 160           | 130          | 80               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |  |                  |     |
|----------------------|----------|--|--|--|---|--|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 |  | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|--|------------------|-----|

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# ANALYTICAL RESULTS

Lab ID: 3775400010  
 Sample ID: Lake Huron Plant-Tap  
 Description: Grab

Date Collected: 05/10/2022 11:28  
 Date Received: 05/11/2022 15:47

Matrix: Drinking Water, Potable (D)  
 Collector: N. Taylor

| Parameter                                   | Result | Qual | Unit | RL | MDL  | DF | Min | Max    | Analyzed         | By  |
|---|--------|------|------|----|------|----|-----|--------|------------------|-----|
| Per- & Polyfluoroalkyls (PFAS) by EPA 537.1 |        |      |      |    |      |    |     |        |                  |     |
| 11CI-PF3OUdS                                | <2     |      | ng/L | 2  | 0.42 | 1  |     |        | 05/24/2022 02:40 | JKP |
| 9CI-PF3ONS                                  | <2     |      | ng/L | 2  | 0.44 | 1  |     |        | 05/24/2022 02:40 | JKP |
| ADONA                                       | <2     |      | ng/L | 2  | 0.56 | 1  |     |        | 05/24/2022 02:40 | JKP |
| HFPO-DA                                     | <2     |      | ng/L | 2  | 0.30 | 1  |     | 370    | 05/24/2022 02:40 | JKP |
| NEtFOSAA                                    | <2     |      | ng/L | 2  | 0.54 | 1  |     |        | 05/24/2022 02:40 | JKP |
| NMeFOSAA                                    | <2     |      | ng/L | 2  | 0.61 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFBS  | <2     |      | ng/L | 2  | 0.35 | 1  |     | 420    | 05/24/2022 02:40 | JKP |
| PFDA  | <2     |      | ng/L | 2  | 0.46 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFDoA                                       | <2     |      | ng/L | 2  | 0.34 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFHpA                                       | <2     |      | ng/L | 2  | 0.47 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFHxA                                       | <2     |      | ng/L | 2  | 0.42 | 1  |     | 400000 | 05/24/2022 02:40 | JKP |
| PFHxS                                       | <2     |      | ng/L | 2  | 0.49 | 1  |     | 51     | 05/24/2022 02:40 | JKP |
| PFNA  | <2     |      | ng/L | 2  | 0.32 | 1  |     | 6      | 05/24/2022 02:40 | JKP |
| PFOA  | <2     |      | ng/L | 2  | 0.40 | 1  |     | 8      | 05/24/2022 02:40 | JKP |
| PFOS  | <2     |      | ng/L | 2  | 0.49 | 1  |     | 16     | 05/24/2022 02:40 | JKP |
| PFTeDA                                      | <2     |      | ng/L | 2  | 0.55 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFTrDA                                      | <2     |      | ng/L | 2  | 0.39 | 1  |     |        | 05/24/2022 02:40 | JKP |
| PFUnDA                                      | <2     |      | ng/L | 2  | 0.59 | 1  |     |        | 05/24/2022 02:40 | JKP |

| Surrogate       | Unit | Spiked Amount | Spike Result | Spike % Recovery | Control Limits | Qual |
|-----------------|------|---------------|--------------|------------------|----------------|------|
| 13C-HFPO-DA (S) | ng/L | 40            | 28           | 70               | 70 - 130       |      |
| 13C-PFDA (S)    | ng/L | 40            | 38           | 96               | 70 - 130       |      |
| 13C-PFHxA (S)   | ng/L | 40            | 28           | 70               | 70 - 130       |      |
| d5-NEtFOSAA (S) | ng/L | 160           | 120          | 78               | 70 - 130       |      |

## Sample Preparation by EPA 537.1

|                      |          |  |  |  |   |                  |     |
|----------------------|----------|--|--|--|---|------------------|-----|
| SPE Extraction, PFAS | Complete |  |  |  | 1 | 05/12/2022 09:50 | JEK |
|----------------------|----------|--|--|--|---|------------------|-----|

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