



# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

Lagoon Sludge Sampling  
240409010

## JOB NUMBER

280-189858-1

# Eurofins Denver

## 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.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

## Authorization



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## Case Narrative

Client: Colorado Analytical Laboratories Inc  
Project: Lagoon Sludge Sampling

Job ID: 280-189858-1

**Job ID: 280-189858-1**

**Eurofins Denver**

### **Job Narrative 280-189858-1**

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- 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 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 4/9/2024 3:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

#### **Method 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24**

Sample 240409010-01 - Lagoon (280-189858-1) was analyzed for Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24. The sample was prepared on 4/19/2024 and analyzed on 4/23/2024.

In preparation batch 280-650166, the following sample was diluted due to elevated TSS in the sample matrix: 240409010-01 - Lagoon (280-189858-1)(20x). Elevated reporting limits (RLs) are provided. Because the sample was extracted at a dilution, the original sample container could not be rinsed.

During the solid phase extraction process, the following sample clogged the cartridge: 240409010-01 - Lagoon (280-189858-1). The cartridge clogged to the point that the extraction could not be completed. Spike volumes have been adjusted. Because the sample wasn't completely extracted, the original sample container could not be rinsed.

The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 240409010-01 - Lagoon (280-189858-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample. The sample was re-extracted at a reduced volume, which brought IDA recoveries within limits. Analysis of this extract confirmed results of the initial analysis, and initial data are reported for targets where the associated IDA recovery is greater than 5%.

The "I" qualifier means the transition mass ratio for the indicated analytes were outside of the established ratio limits. The qualitative identification of the analytes have some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. The affected sample is 240409010-01 - Lagoon (280-189858-1) in analytical batch (280-650491).

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## Definitions/Glossary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

### Qualifiers

#### LCMS

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| *5-       | Isotope dilution analyte is outside acceptance limits, low biased.                                             |
| *5+       | Isotope dilution analyte is outside acceptance limits, high biased.                                            |
| I         | Value is EMPC (estimated maximum possible concentration).                                                      |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| α              | 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                                                                                       |

## Detection Summary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

Client Sample ID: 240409010-01 - Lagoon

Lab Sample ID: 280-189858-1

| Analyte                             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-------------------------------------|--------|-----------|-----|-----|------|---------|---|--------|-----------|
| Perfluorononanoic acid (PFNA)       | 9.2    | J         | 38  | 3.4 | ng/L | 1       |   | 1633   | Total/NA  |
| Perfluorodecanoic acid (PFDA)       | 8.4    | J         | 38  | 6.9 | ng/L | 1       |   | 1633   | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS) | 8.5    | J         | 38  | 3.1 | ng/L | 1       |   | 1633   | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS) | 61     |           | 38  | 6.1 | ng/L | 1       |   | 1633   | Total/NA  |
| Perfluorodecanesulfonic acid (PFDS) | 110    |           | 38  | 4.6 | ng/L | 1       |   | 1633   | Total/NA  |
| NMeFOSAA                            | 180    |           | 38  | 7.9 | ng/L | 1       |   | 1633   | Total/NA  |
| NEtFOSAA                            | 450    |           | 38  | 6.8 | ng/L | 1       |   | 1633   | Total/NA  |
| NMeFOSE                             | 310    |           | 190 | 42  | ng/L | 1       |   | 1633   | Total/NA  |
| NEtFOSE                             | 140    | J         | 380 | 22  | ng/L | 1       |   | 1633   | Total/NA  |
| 5:3 FTCA                            | 210    | J         | 380 | 97  | ng/L | 1       |   | 1633   | Total/NA  |
| 7:3 FTCA                            | 220    | J         | 380 | 100 | ng/L | 1       |   | 1633   | Total/NA  |

This Detection Summary does not include radiochemical test results.

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## Method Summary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

| Method | Method Description                                              | Protocol | Laboratory |
|--------|-----------------------------------------------------------------|----------|------------|
| 1633   | Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 | EPA      | EET DEN    |
| 1633   | Solid-Phase Extraction (SPE)                                    | EPA      | EET DEN    |

### Protocol References:

EPA = US Environmental Protection Agency

### Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

| Lab Sample ID | Client Sample ID      | Matrix | Collected      | Received       |
|---------------|-----------------------|--------|----------------|----------------|
| 280-189858-1  | 240409010-01 - Lagoon | Water  | 04/09/24 13:30 | 04/09/24 15:15 |



# Client Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24

Client Sample ID: 240409010-01 - Lagoon

Date Collected: 04/09/24 13:30

Date Received: 04/09/24 15:15

Lab Sample ID: 280-189858-1

Matrix: Water

| Analyte                                     | Result | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)               | ND     |           | 38  | 11  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluoropentanoic acid (PFPeA)             | ND     |           | 38  | 7.2 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorohexanoic acid (PFHxA)              | ND     |           | 38  | 6.5 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluoroheptanoic acid (PFHpA)             | ND     |           | 38  | 3.8 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorooctanoic acid (PFOA)               | ND     |           | 38  | 12  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorononanoic acid (PFNA)               | 9.2    | J         | 38  | 3.4 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorodecanoic acid (PFDA)               | 8.4    | J         | 38  | 6.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluoroundecanoic acid (PFUnA)            | ND     |           | 38  | 5.3 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorododecanoic acid (PFDoA)            | ND     |           | 38  | 6.8 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorotridecanoic acid (PFTriA)          | ND     |           | 38  | 8.0 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorotetradecanoic acid (PFTeDA)        | ND     |           | 38  | 3.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorobutanesulfonic acid (PFBS)         | 8.5    | J         | 38  | 3.1 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluoropentanesulfonic acid (PFPeS)       | ND     |           | 38  | 2.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)        | ND     |           | 38  | 4.6 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluoroheptanesulfonic acid (PFHpS)       | ND     |           | 38  | 7.5 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorooctanesulfonic acid (PFOS)         | 61     |           | 38  | 6.1 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorononanesulfonic acid (PFNS)         | ND     |           | 38  | 2.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorodecanesulfonic acid (PFDS)         | 110    |           | 38  | 4.6 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorododecanesulfonic acid (PFDoS)      | ND     |           | 38  | 4.2 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 4:2 FTS                                     | ND     |           | 95  | 13  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 6:2 FTS                                     | ND     |           | 190 | 11  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 8:2 FTS                                     | ND     |           | 190 | 15  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| Perfluorooctanesulfonamide (PFOSA)          | ND     |           | 38  | 3.7 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NMeFOSA                                     | ND     |           | 38  | 5.8 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NEtFOSA                                     | ND     |           | 38  | 3.7 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NMeFOSAA                                    | 180    |           | 38  | 7.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NEtFOSAA                                    | 450    |           | 38  | 6.8 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NMeFOSE                                     | 310    |           | 190 | 42  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NEtFOSE                                     | 140    | J         | 380 | 22  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| HFPO-DA (GenX)                              | ND     |           | 38  | 8.9 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND     |           | 38  | 8.2 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| PFMBA                                       | ND     |           | 95  | 9.1 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| NFDHA                                       | ND     |           | 38  | 7.2 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| PFMPA                                       | ND     |           | 95  | 9.4 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 9CI-PF3ONS                                  | ND     |           | 95  | 21  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 11CI-PF3OUdS                                | ND     |           | 95  | 23  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| PFEESA                                      | ND     |           | 95  | 6.3 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 3:3 FTCA                                    | ND     |           | 190 | 34  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 5:3 FTCA                                    | 210    | J         | 380 | 97  | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 7:3 FTCA                                    | 220    | J         | 380 | 100 | ng/L |   | 04/19/24 09:32 | 04/23/24 04:36 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 95        |           | 5 - 130  | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C5 PFPeA       | 93        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C5 PFHxA       | 94        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |

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# Client Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Client Sample ID: 240409010-01 - Lagoon

Date Collected: 04/09/24 13:30

Date Received: 04/09/24 15:15

Lab Sample ID: 280-189858-1

Matrix: Water

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFHpA       | 94        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C8 PFOA        | 90        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C9 PFNA        | 85        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C6 PFDA        | 83        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C7 PFUnA       | 61        |           | 30 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C2 PFDoA       | 37        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C2 PFTeDA      | 52        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C3 PFBS        | 83        |           | 40 - 135 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C3 PFHxS       | 88        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C8 PFOS        | 65        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C8 FOSA        | 35        | *5-       | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d3-NMeFOSAA      | 78        |           | 40 - 170 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d5-NEtFOSAA      | 64        |           | 25 - 135 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| M2-4:2 FTS       | 246       | *5+ I     | 40 - 200 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| M2-6:2 FTS       | 152       |           | 40 - 200 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| M2-8:2 FTS       | 186       |           | 40 - 300 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| 13C3 HFPO-DA     | 86        |           | 40 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d7-N-MeFOSE-M    | 51        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d9-N-EtFOSE-M    | 47        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d5-NEtPFOSA      | 47        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |
| d3-NMePFOSA      | 44        |           | 10 - 130 | 04/19/24 09:32 | 04/23/24 04:36 | 1       |

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# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24

Lab Sample ID: MB 280-650166/1-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 650166

| Analyte                                     | MB Result | MB Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------------------|-----------|--------------|-----|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)               | ND        |              | 2.0 | 0.59 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluoropentanoic acid (PFPeA)             | ND        |              | 2.0 | 0.38 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorohexanoic acid (PFHxA)              | ND        |              | 2.0 | 0.34 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluoroheptanoic acid (PFHpA)             | ND        |              | 2.0 | 0.20 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorooctanoic acid (PFOA)               | ND        |              | 2.0 | 0.65 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorononanoic acid (PFNA)               | ND        |              | 2.0 | 0.18 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorodecanoic acid (PFDA)               | ND        |              | 2.0 | 0.37 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluoroundecanoic acid (PFUnA)            | ND        |              | 2.0 | 0.28 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorododecanoic acid (PFDoA)            | ND        |              | 2.0 | 0.36 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorotridecanoic acid (PFTriA)          | ND        |              | 2.0 | 0.42 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorotetradecanoic acid (PFTeDA)        | ND        |              | 2.0 | 0.21 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorobutanesulfonic acid (PFBS)         | ND        |              | 2.0 | 0.17 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluoropentanesulfonic acid (PFPeS)       | ND        |              | 2.0 | 0.15 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)        | ND        |              | 2.0 | 0.24 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluoroheptanesulfonic acid (PFHpS)       | ND        |              | 2.0 | 0.40 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorooctanesulfonic acid (PFOS)         | ND        |              | 2.0 | 0.32 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorononanesulfonic acid (PFNS)         | ND        |              | 2.0 | 0.15 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorodecanesulfonic acid (PFDS)         | ND        |              | 2.0 | 0.24 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorododecanesulfonic acid (PFDoS)      | ND        |              | 2.0 | 0.22 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 4:2 FTS                                     | ND        |              | 5.0 | 0.68 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 6:2 FTS                                     | ND        |              | 10  | 0.59 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 8:2 FTS                                     | ND        |              | 10  | 0.77 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| Perfluorooctanesulfonamide (PFOSA)          | ND        |              | 2.0 | 0.20 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NMeFOSA                                     | ND        |              | 2.0 | 0.31 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NEtFOSA                                     | ND        |              | 2.0 | 0.20 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NMeFOSAA                                    | ND        |              | 2.0 | 0.42 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NEtFOSAA                                    | ND        |              | 2.0 | 0.36 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NMeFOSE                                     | ND        |              | 10  | 2.2  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NEtFOSE                                     | ND        |              | 20  | 1.2  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| HFPO-DA (GenX)                              | ND        |              | 2.0 | 0.47 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND        |              | 2.0 | 0.43 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| PFMBA                                       | ND        |              | 5.0 | 0.48 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| NFDHA                                       | ND        |              | 2.0 | 0.38 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| PFMPA                                       | ND        |              | 5.0 | 0.50 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 9CI-PF3ONS                                  | ND        |              | 5.0 | 1.1  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 11CI-PF3OUdS                                | ND        |              | 5.0 | 1.2  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| PFEESA                                      | ND        |              | 5.0 | 0.34 | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 3:3 FTCA                                    | ND        |              | 10  | 1.8  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 5:3 FTCA                                    | ND        |              | 20  | 5.1  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 7:3 FTCA                                    | ND        |              | 20  | 5.5  | ng/L |   | 04/19/24 09:32 | 04/22/24 21:28 | 1       |

| Isotope Dilution | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|--------------|--------------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 95           |              | 5 - 130  | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C5 PFPeA       | 105          |              | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C5 PFHxA       | 98           |              | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |

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# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Lab Sample ID: MB 280-650166/1-A  
Matrix: Water  
Analysis Batch: 650491

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 650166

| Isotope Dilution | MB        | MB | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|----|----------|----------------|----------------|---------|
| %Recovery        | Qualifier |    |          |                |                |         |
| 13C4 PFHpA       | 106       |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C8 PFOA        | 84        |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C9 PFNA        | 99        |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C6 PFDA        | 97        |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C7 PFUnA       | 94        |    | 30 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C2 PFDaA       | 89        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C2 PFTeDA      | 71        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C3 PFBS        | 96        |    | 40 - 135 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C3 PFHxS       | 101       |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C8 PFOS        | 107       |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C8 FOSA        | 87        |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d3-NMeFOSAA      | 83        |    | 40 - 170 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d5-NEtFOSAA      | 73        |    | 25 - 135 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| M2-4:2 FTS       | 104       |    | 40 - 200 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| M2-6:2 FTS       | 105       |    | 40 - 200 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| M2-8:2 FTS       | 109       |    | 40 - 300 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| 13C3 HFPO-DA     | 97        |    | 40 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d7-N-MeFOSE-M    | 88        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d9-N-EtFOSE-M    | 89        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d5-NEtPFOSA      | 67        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |
| d3-NMePFOSA      | 59        |    | 10 - 130 | 04/19/24 09:32 | 04/22/24 21:28 | 1       |

Lab Sample ID: LCS 280-650166/3-A  
Matrix: Water  
Analysis Batch: 650491

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 650166

| Analyte                               | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|---------------------------------------|-------------|------------|---------------|------|---|------|----------|
| Perfluorobutanoic acid (PFBA)         | 32.0        | 29.5       |               | ng/L |   | 92   | 70 - 140 |
| Perfluoropentanoic acid (PFPeA)       | 32.0        | 29.9       |               | ng/L |   | 93   | 65 - 135 |
| Perfluorohexanoic acid (PFHxA)        | 32.0        | 28.4       |               | ng/L |   | 89   | 70 - 145 |
| Perfluoroheptanoic acid (PFHpA)       | 32.0        | 30.5       |               | ng/L |   | 95   | 70 - 150 |
| Perfluorooctanoic acid (PFOA)         | 32.0        | 25.1       |               | ng/L |   | 78   | 70 - 150 |
| Perfluorononanoic acid (PFNA)         | 32.0        | 27.2       |               | ng/L |   | 85   | 70 - 150 |
| Perfluorodecanoic acid (PFDA)         | 32.0        | 30.1       |               | ng/L |   | 94   | 70 - 140 |
| Perfluoroundecanoic acid (PFUnA)      | 32.0        | 32.5       |               | ng/L |   | 102  | 70 - 145 |
| Perfluorododecanoic acid (PFDaA)      | 32.0        | 30.0       |               | ng/L |   | 94   | 70 - 140 |
| Perfluorotridecanoic acid (PFTriA)    | 32.0        | 25.5       |               | ng/L |   | 80   | 65 - 140 |
| Perfluorotetradecanoic acid (PFTeDA)  | 32.0        | 30.8       |               | ng/L |   | 96   | 60 - 140 |
| Perfluorobutanesulfonic acid (PFBS)   | 28.4        | 25.2       |               | ng/L |   | 89   | 60 - 145 |
| Perfluoropentanesulfonic acid (PFPeS) | 30.0        | 25.9       |               | ng/L |   | 86   | 65 - 140 |
| Perfluorohexanesulfonic acid (PFHxS)  | 29.2        | 26.8       |               | ng/L |   | 92   | 65 - 145 |
| Perfluoroheptanesulfonic acid (PFHpS) | 30.5        | 26.3       |               | ng/L |   | 86   | 70 - 150 |

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# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Lab Sample ID: LCS 280-650166/3-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 650166

| Analyte                                     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| Perfluorooctanesulfonic acid (PFOS)         | 29.8        | 25.1       |               | ng/L |   | 84   | 55 - 150    |
| Perfluorononanesulfonic acid (PFNS)         | 30.8        | 25.7       |               | ng/L |   | 83   | 65 - 145    |
| Perfluorodecanesulfonic acid (PFDS)         | 30.8        | 24.8       |               | ng/L |   | 81   | 60 - 145    |
| Perfluorododecanesulfonic acid (PFDoS)      | 31.0        | 22.6       |               | ng/L |   | 73   | 50 - 145    |
| 4:2 FTS                                     | 79.8        | 74.9       |               | ng/L |   | 94   | 70 - 145    |
| 6:2 FTS                                     | 121         | 109        |               | ng/L |   | 90   | 65 - 155    |
| 8:2 FTS                                     | 123         | 116        |               | ng/L |   | 95   | 60 - 150    |
| Perfluorooctanesulfonamide (PFOSA)          | 32.0        | 30.1       |               | ng/L |   | 94   | 70 - 145    |
| NMeFOSA                                     | 32.0        | 34.0       |               | ng/L |   | 106  | 60 - 150    |
| NEtFOSA                                     | 32.0        | 32.9       |               | ng/L |   | 103  | 65 - 145    |
| NMeFOSAA                                    | 32.0        | 28.5       |               | ng/L |   | 89   | 50 - 140    |
| NEtFOSAA                                    | 32.0        | 30.1       |               | ng/L |   | 94   | 70 - 145    |
| NMeFOSE                                     | 160         | 151        |               | ng/L |   | 94   | 70 - 145    |
| NEtFOSE                                     | 320         | 263        |               | ng/L |   | 82   | 70 - 135    |
| HFPO-DA (GenX)                              | 32.0        | 27.4       |               | ng/L |   | 86   | 70 - 140    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 30.2        | 28.1       |               | ng/L |   | 93   | 65 - 145    |
| PFMBA                                       | 64.0        | 61.3       |               | ng/L |   | 96   | 60 - 150    |
| NFDHA                                       | 32.0        | 29.2       |               | ng/L |   | 91   | 50 - 150    |
| PFMPA                                       | 64.0        | 58.4       |               | ng/L |   | 91   | 55 - 140    |
| 9Cl-PF3ONS                                  | 79.6        | 65.4       |               | ng/L |   | 82   | 70 - 155    |
| 11Cl-PF3OUdS                                | 80.4        | 72.8       |               | ng/L |   | 90   | 55 - 160    |
| PFEESA                                      | 57.1        | 52.2       |               | ng/L |   | 91   | 70 - 140    |
| 3:3 FTCA                                    | 160         | 137        |               | ng/L |   | 85   | 65 - 130    |
| 5:3 FTCA                                    | 320         | 283        |               | ng/L |   | 89   | 70 - 135    |
| 7:3 FTCA                                    | 320         | 293        |               | ng/L |   | 92   | 50 - 145    |

| Isotope Dilution | LCS %Recovery | LCS Qualifier | Limits   |
|------------------|---------------|---------------|----------|
| 13C4 PFBA        | 89            |               | 5 - 130  |
| 13C5 PFPeA       | 98            |               | 40 - 130 |
| 13C5 PFHxA       | 98            |               | 40 - 130 |
| 13C4 PFHpA       | 95            |               | 40 - 130 |
| 13C8 PFOA        | 97            |               | 40 - 130 |
| 13C9 PFNA        | 90            |               | 40 - 130 |
| 13C6 PFDA        | 90            |               | 40 - 130 |
| 13C7 PFUnA       | 93            |               | 30 - 130 |
| 13C2 PFDoA       | 87            |               | 10 - 130 |
| 13C2 PFTeDA      | 85            |               | 10 - 130 |
| 13C3 PFBS        | 95            |               | 40 - 135 |
| 13C3 PFHxS       | 95            |               | 40 - 130 |
| 13C8 PFOS        | 97            |               | 40 - 130 |
| 13C8 FOSA        | 88            |               | 40 - 130 |
| d3-NMeFOSAA      | 81            |               | 40 - 170 |
| d5-NEtFOSAA      | 78            |               | 25 - 135 |
| M2-4:2 FTS       | 88            |               | 40 - 200 |

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# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Lab Sample ID: LCS 280-650166/3-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 650166

| Isotope Dilution | LCS       |           | Limits   |
|------------------|-----------|-----------|----------|
|                  | %Recovery | Qualifier |          |
| M2-6:2 FTS       | 87        |           | 40 - 200 |
| M2-8:2 FTS       | 95        |           | 40 - 300 |
| 13C3 HFPO-DA     | 92        |           | 40 - 130 |
| d7-N-MeFOSE-M    | 84        |           | 10 - 130 |
| d9-N-EtFOSE-M    | 90        |           | 10 - 130 |
| d5-NEtPFOSA      | 70        |           | 10 - 130 |
| d3-NMePFOSA      | 64        |           | 10 - 130 |

Lab Sample ID: LCSD 280-650166/4-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 650166

| Analyte                                | Spike Added | LCSD   |           | Unit | D | %Rec | %Rec     |     | RPD | Limit |
|----------------------------------------|-------------|--------|-----------|------|---|------|----------|-----|-----|-------|
|                                        |             | Result | Qualifier |      |   |      | Limits   | RPD |     |       |
| Perfluorobutanoic acid (PFBA)          | 32.0        | 29.7   |           | ng/L |   | 93   | 70 - 140 | 1   | 30  |       |
| Perfluoropentanoic acid (PFPeA)        | 32.0        | 27.9   |           | ng/L |   | 87   | 65 - 135 | 7   | 30  |       |
| Perfluorohexanoic acid (PFHxA)         | 32.0        | 29.1   |           | ng/L |   | 91   | 70 - 145 | 2   | 30  |       |
| Perfluoroheptanoic acid (PFHpA)        | 32.0        | 29.9   |           | ng/L |   | 93   | 70 - 150 | 2   | 30  |       |
| Perfluorooctanoic acid (PFOA)          | 32.0        | 27.6   |           | ng/L |   | 86   | 70 - 150 | 9   | 30  |       |
| Perfluorononanoic acid (PFNA)          | 32.0        | 24.9   |           | ng/L |   | 78   | 70 - 150 | 9   | 30  |       |
| Perfluorodecanoic acid (PFDA)          | 32.0        | 27.9   |           | ng/L |   | 87   | 70 - 140 | 8   | 30  |       |
| Perfluoroundecanoic acid (PFUnA)       | 32.0        | 31.1   |           | ng/L |   | 97   | 70 - 145 | 4   | 30  |       |
| Perfluorododecanoic acid (PFDoA)       | 32.0        | 31.0   |           | ng/L |   | 97   | 70 - 140 | 3   | 30  |       |
| Perfluorotridecanoic acid (PFTriA)     | 32.0        | 27.4   |           | ng/L |   | 86   | 65 - 140 | 7   | 30  |       |
| Perfluorotetradecanoic acid (PFTeDA)   | 32.0        | 29.1   |           | ng/L |   | 91   | 60 - 140 | 6   | 30  |       |
| Perfluorobutanesulfonic acid (PFBS)    | 28.4        | 24.9   |           | ng/L |   | 88   | 60 - 145 | 1   | 30  |       |
| Perfluoropentanesulfonic acid (PFPeS)  | 30.0        | 26.2   |           | ng/L |   | 87   | 65 - 140 | 1   | 30  |       |
| Perfluorohexanesulfonic acid (PFHxS)   | 29.2        | 25.0   |           | ng/L |   | 86   | 65 - 145 | 7   | 30  |       |
| Perfluoroheptanesulfonic acid (PFHpS)  | 30.5        | 29.0   |           | ng/L |   | 95   | 70 - 150 | 10  | 30  |       |
| Perfluorooctanesulfonic acid (PFOS)    | 29.8        | 26.0   |           | ng/L |   | 87   | 55 - 150 | 4   | 30  |       |
| Perfluorononanesulfonic acid (PFNS)    | 30.8        | 27.6   |           | ng/L |   | 90   | 65 - 145 | 7   | 30  |       |
| Perfluorodecanesulfonic acid (PFDS)    | 30.8        | 26.1   |           | ng/L |   | 85   | 60 - 145 | 5   | 30  |       |
| Perfluorododecanesulfonic acid (PFDoS) | 31.0        | 22.2   |           | ng/L |   | 72   | 50 - 145 | 2   | 30  |       |
| 4:2 FTS                                | 79.8        | 72.1   |           | ng/L |   | 90   | 70 - 145 | 4   | 30  |       |
| 6:2 FTS                                | 121         | 117    |           | ng/L |   | 96   | 65 - 155 | 6   | 30  |       |
| 8:2 FTS                                | 123         | 108    |           | ng/L |   | 88   | 60 - 150 | 7   | 30  |       |
| Perfluorooctanesulfonamide (PFOSA)     | 32.0        | 30.3   |           | ng/L |   | 95   | 70 - 145 | 1   | 30  |       |
| NMeFOSA                                | 32.0        | 36.0   |           | ng/L |   | 113  | 60 - 150 | 6   | 30  |       |
| NEtFOSA                                | 32.0        | 32.7   |           | ng/L |   | 102  | 65 - 145 | 1   | 30  |       |
| NMeFOSAA                               | 32.0        | 26.7   |           | ng/L |   | 84   | 50 - 140 | 6   | 30  |       |

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# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Lab Sample ID: LCSD 280-650166/4-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 650166

| Analyte                                     | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------------------------------|-------------|-------------|----------------|------|---|------|-------------|-----|-----------|
| NEtFOSAA                                    | 32.0        | 30.4        |                | ng/L |   | 95   | 70 - 145    | 1   | 30        |
| NMeFOSE                                     | 160         | 147         |                | ng/L |   | 92   | 70 - 145    | 2   | 30        |
| NEtFOSE                                     | 320         | 274         |                | ng/L |   | 86   | 70 - 135    | 4   | 30        |
| HFPO-DA (GenX)                              | 32.0        | 27.3        |                | ng/L |   | 85   | 70 - 140    | 1   | 30        |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 30.2        | 32.7        |                | ng/L |   | 108  | 65 - 145    | 15  | 30        |
| PFMBA                                       | 64.0        | 64.2        |                | ng/L |   | 100  | 60 - 150    | 5   | 30        |
| NFDHA                                       | 32.0        | 35.5        |                | ng/L |   | 111  | 50 - 150    | 20  | 30        |
| PFMPA                                       | 64.0        | 58.0        |                | ng/L |   | 91   | 55 - 140    | 1   | 30        |
| 9CI-PF3ONS                                  | 79.6        | 67.2        |                | ng/L |   | 84   | 70 - 155    | 3   | 30        |
| 11CI-PF3OUdS                                | 80.4        | 77.6        |                | ng/L |   | 96   | 55 - 160    | 6   | 30        |
| PFEESA                                      | 57.1        | 53.7        |                | ng/L |   | 94   | 70 - 140    | 3   | 30        |
| 3:3 FTCA                                    | 160         | 135         |                | ng/L |   | 84   | 65 - 130    | 1   | 30        |
| 5:3 FTCA                                    | 320         | 284         |                | ng/L |   | 89   | 70 - 135    | 0   | 30        |
| 7:3 FTCA                                    | 320         | 291         |                | ng/L |   | 91   | 50 - 145    | 1   | 30        |

| Isotope Dilution | LCSD %Recovery | LCSD Qualifier | Limits   |
|------------------|----------------|----------------|----------|
| 13C4 PFBA        | 91             |                | 5 - 130  |
| 13C5 PFPeA       | 95             |                | 40 - 130 |
| 13C5 PFHxA       | 95             |                | 40 - 130 |
| 13C4 PFHpA       | 97             |                | 40 - 130 |
| 13C8 PFOA        | 88             |                | 40 - 130 |
| 13C9 PFNA        | 98             |                | 40 - 130 |
| 13C6 PFDA        | 92             |                | 40 - 130 |
| 13C7 PFUnA       | 97             |                | 30 - 130 |
| 13C2 PFDaA       | 102            |                | 10 - 130 |
| 13C2 PFTeDA      | 83             |                | 10 - 130 |
| 13C3 PFBS        | 94             |                | 40 - 135 |
| 13C3 PFHxS       | 94             |                | 40 - 130 |
| 13C8 PFOS        | 90             |                | 40 - 130 |
| 13C8 FOSA        | 96             |                | 40 - 130 |
| d3-NMeFOSAA      | 94             |                | 40 - 170 |
| d5-NEtFOSAA      | 79             |                | 25 - 135 |
| M2-4:2 FTS       | 93             |                | 40 - 200 |
| M2-6:2 FTS       | 92             |                | 40 - 200 |
| M2-8:2 FTS       | 110            |                | 40 - 300 |
| 13C3 HFPO-DA     | 84             |                | 40 - 130 |
| d7-N-MeFOSE-M    | 84             |                | 10 - 130 |
| d9-N-EtFOSE-M    | 93             |                | 10 - 130 |
| d5-NEtPFOSA      | 69             |                | 10 - 130 |
| d3-NMePFOSA      | 59             |                | 10 - 130 |

Lab Sample ID: LLCS 280-650166/2-A

Matrix: Water

Analysis Batch: 650491

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 650166

| Analyte                         | Spike Added | LLCS Result | LLCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------------------|-------------|-------------|----------------|------|---|------|-------------|
| Perfluorobutanoic acid (PFBA)   | 3.20        | 2.98        |                | ng/L |   | 93   | 70 - 140    |
| Perfluoropentanoic acid (PFPeA) | 3.20        | 2.93        |                | ng/L |   | 92   | 65 - 135    |

Eurofins Denver



# QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

## Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

Lab Sample ID: LLCS 280-650166/2-A  
Matrix: Water  
Analysis Batch: 650491

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 650166

| Analyte                                     | Spike Added | LLCS Result | LLCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------------------------------|-------------|-------------|----------------|------|---|------|-------------|
| Perfluorohexanoic acid (PFHxA)              | 3.20        | 2.90        |                | ng/L |   | 91   | 70 - 145    |
| Perfluoroheptanoic acid (PFHpA)             | 3.20        | 2.70        |                | ng/L |   | 84   | 70 - 150    |
| Perfluorooctanoic acid (PFOA)               | 3.20        | 2.67        |                | ng/L |   | 84   | 70 - 150    |
| Perfluorononanoic acid (PFNA)               | 3.20        | 2.88        |                | ng/L |   | 90   | 70 - 150    |
| Perfluorodecanoic acid (PFDA)               | 3.20        | 3.02        |                | ng/L |   | 94   | 70 - 140    |
| Perfluoroundecanoic acid (PFUnA)            | 3.20        | 2.93        |                | ng/L |   | 92   | 70 - 145    |
| Perfluorododecanoic acid (PFDoA)            | 3.20        | 3.38        |                | ng/L |   | 106  | 70 - 140    |
| Perfluorotridecanoic acid (PFTriA)          | 3.20        | 2.53        |                | ng/L |   | 79   | 65 - 140    |
| Perfluorotetradecanoic acid (PFTeDA)        | 3.20        | 2.84        |                | ng/L |   | 89   | 60 - 140    |
| Perfluorobutanesulfonic acid (PFBS)         | 2.84        | 2.58        |                | ng/L |   | 91   | 60 - 145    |
| Perfluoropentanesulfonic acid (PFPeS)       | 3.00        | 2.60        |                | ng/L |   | 87   | 65 - 140    |
| Perfluorohexanesulfonic acid (PFHxS)        | 2.92        | 2.89        |                | ng/L |   | 99   | 65 - 145    |
| Perfluoroheptanesulfonic acid (PFHpS)       | 3.05        | 2.76        |                | ng/L |   | 91   | 70 - 150    |
| Perfluorooctanesulfonic acid (PFOS)         | 2.98        | 2.75        |                | ng/L |   | 92   | 55 - 150    |
| Perfluorononanesulfonic acid (PFNS)         | 3.08        | 2.86        |                | ng/L |   | 93   | 65 - 145    |
| Perfluorodecanesulfonic acid (PFDS)         | 3.08        | 2.63        |                | ng/L |   | 85   | 60 - 145    |
| Perfluorododecanesulfonic acid (PFDoS)      | 3.10        | 2.19        |                | ng/L |   | 71   | 50 - 145    |
| 4:2 FTS                                     | 7.98        | 7.09        |                | ng/L |   | 89   | 70 - 145    |
| 6:2 FTS                                     | 12.1        | 11.1        |                | ng/L |   | 92   | 65 - 155    |
| 8:2 FTS                                     | 12.3        | 11.4        |                | ng/L |   | 93   | 60 - 150    |
| Perfluorooctanesulfonamide (PFOSA)          | 3.20        | 2.97        |                | ng/L |   | 93   | 70 - 145    |
| NMeFOSA                                     | 3.20        | 3.11        |                | ng/L |   | 97   | 60 - 150    |
| NEtFOSA                                     | 3.20        | 3.17        |                | ng/L |   | 99   | 65 - 145    |
| NMeFOSAA                                    | 3.20        | 2.90        |                | ng/L |   | 91   | 50 - 140    |
| NEtFOSAA                                    | 3.20        | 3.04        |                | ng/L |   | 95   | 70 - 145    |
| NMeFOSE                                     | 16.0        | 14.6        |                | ng/L |   | 91   | 70 - 145    |
| NEtFOSE                                     | 32.0        | 25.8        |                | ng/L |   | 81   | 70 - 135    |
| HFPO-DA (GenX)                              | 3.20        | 3.01        |                | ng/L |   | 94   | 70 - 140    |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 3.02        | 2.83        |                | ng/L |   | 94   | 65 - 145    |
| PFMBA                                       | 6.40        | 6.93        |                | ng/L |   | 108  | 60 - 150    |
| NFDHA                                       | 3.20        | 2.37        |                | ng/L |   | 74   | 50 - 150    |
| PFMPA                                       | 6.40        | 6.08        |                | ng/L |   | 95   | 55 - 140    |
| 9Cl-PF3ONS                                  | 7.96        | 6.49        |                | ng/L |   | 81   | 70 - 155    |
| 11Cl-PF3OUdS                                | 8.04        | 7.33        |                | ng/L |   | 91   | 55 - 160    |
| PFEESA                                      | 5.71        | 5.21        |                | ng/L |   | 91   | 70 - 140    |
| 3:3 FTCA                                    | 16.0        | 14.0        |                | ng/L |   | 87   | 65 - 130    |
| 5:3 FTCA                                    | 32.0        | 28.1        |                | ng/L |   | 88   | 70 - 135    |
| 7:3 FTCA                                    | 32.0        | 27.1        |                | ng/L |   | 85   | 50 - 145    |

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## QC Sample Results

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

### Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS, QSM Table B-24 (Continued)

| <i>Isotope Dilution</i> | <i>LLCS LLCS</i> |                  | <i>Limits</i> |
|-------------------------|------------------|------------------|---------------|
|                         | <i>%Recovery</i> | <i>Qualifier</i> |               |
| 13C4 PFBA               | 90               |                  | 5 - 130       |
| 13C5 PFPeA              | 87               |                  | 40 - 130      |
| 13C5 PFHxA              | 97               |                  | 40 - 130      |
| 13C4 PFHpA              | 93               |                  | 40 - 130      |
| 13C8 PFOA               | 106              |                  | 40 - 130      |
| 13C9 PFNA               | 91               |                  | 40 - 130      |
| 13C6 PFDA               | 89               |                  | 40 - 130      |
| 13C7 PFUnA              | 100              |                  | 30 - 130      |
| 13C2 PFDoA              | 79               |                  | 10 - 130      |
| 13C2 PFTeDA             | 89               |                  | 10 - 130      |
| 13C3 PFBS               | 91               |                  | 40 - 135      |
| 13C3 PFHxS              | 94               |                  | 40 - 130      |
| 13C8 PFOS               | 95               |                  | 40 - 130      |
| 13C8 FOSA               | 94               |                  | 40 - 130      |
| d3-NMeFOSAA             | 91               |                  | 40 - 170      |
| d5-NEtFOSAA             | 82               |                  | 25 - 135      |
| M2-4:2 FTS              | 96               |                  | 40 - 200      |
| M2-6:2 FTS              | 97               |                  | 40 - 200      |
| M2-8:2 FTS              | 112              |                  | 40 - 300      |
| 13C3 HFPO-DA            | 81               |                  | 40 - 130      |
| d7-N-MeFOSE-M           | 89               |                  | 10 - 130      |
| d9-N-EtFOSE-M           | 95               |                  | 10 - 130      |
| d5-NEtPFOSA             | 74               |                  | 10 - 130      |
| d3-NMePFOSA             | 67               |                  | 10 - 130      |

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## QC Association Summary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

### LCMS

#### Prep Batch: 650166

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 280-189858-1        | 240409010-01 - Lagoon  | Total/NA  | Water  | 1633   |            |
| MB 280-650166/1-A   | Method Blank           | Total/NA  | Water  | 1633   |            |
| LCS 280-650166/3-A  | Lab Control Sample     | Total/NA  | Water  | 1633   |            |
| LCSD 280-650166/4-A | Lab Control Sample Dup | Total/NA  | Water  | 1633   |            |
| LLCS 280-650166/2-A | Lab Control Sample     | Total/NA  | Water  | 1633   |            |

#### Analysis Batch: 650491

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 280-189858-1        | 240409010-01 - Lagoon  | Total/NA  | Water  | 1633   | 650166     |
| MB 280-650166/1-A   | Method Blank           | Total/NA  | Water  | 1633   | 650166     |
| LCS 280-650166/3-A  | Lab Control Sample     | Total/NA  | Water  | 1633   | 650166     |
| LCSD 280-650166/4-A | Lab Control Sample Dup | Total/NA  | Water  | 1633   | 650166     |
| LLCS 280-650166/2-A | Lab Control Sample     | Total/NA  | Water  | 1633   | 650166     |



# Lab Chronicle

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

Client Sample ID: 240409010-01 - Lagoon

Lab Sample ID: 280-189858-1

Date Collected: 04/09/24 13:30

Matrix: Water

Date Received: 04/09/24 15:15

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 1633         |     |            | 26.4 mL        | 5 mL         | 650166       | 04/19/24 09:32       | HRH     | EET DEN |
| Total/NA  | Analysis   | 1633         |     | 1          | 1 mL           | 1 mL         | 650491       | 04/23/24 04:36       | SCS     | EET DEN |

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

## Accreditation/Certification Summary

Client: Colorado Analytical Laboratories Inc  
Project/Site: Lagoon Sludge Sampling

Job ID: 280-189858-1  
SDG: 240409010

### Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority         | Program               | Identification Number | Expiration Date |
|-------------------|-----------------------|-----------------------|-----------------|
| A2LA              | Dept. of Defense ELAP | 2907.01               | 10-31-24        |
| A2LA              | ISO/IEC 17025         | 2907.01               | 10-31-25        |
| Alabama           | State Program         | 40730                 | 09-30-12 *      |
| Alaska (UST)      | State                 | 18-001                | 11-30-25        |
| Arizona           | State                 | AZ0713                | 12-20-24        |
| California        | State                 | 2513                  | 01-08-25        |
| Connecticut       | State                 | PH-0686               | 09-30-24        |
| Florida           | NELAP                 | E87667-57             | 06-30-24        |
| Georgia           | State                 | 4025-011              | 01-08-25        |
| Illinois          | NELAP                 | 2000172024-9          | 05-31-25        |
| Iowa              | State                 | 370                   | 12-01-24        |
| Kansas            | NELAP                 | E-10166               | 04-30-24        |
| Kentucky (VWV)    | State                 | KY98047               | 12-31-24        |
| Louisiana         | NELAP                 | 30785                 | 06-30-14 *      |
| Louisiana (All)   | NELAP                 | 30785                 | 06-30-24        |
| Minnesota         | NELAP                 | 1788752               | 12-31-24        |
| Nevada            | State                 | CO000262024-07        | 07-31-24        |
| New Hampshire     | NELAP                 | 2053                  | 04-28-24        |
| New Jersey        | NELAP                 | 230001                | 06-30-24        |
| New York          | NELAP                 | 59923                 | 04-01-25        |
| North Dakota      | State                 | R-034                 | 01-08-24 *      |
| Oklahoma          | NELAP                 | 8614                  | 08-31-24        |
| Oregon            | NELAP                 | 4025-020              | 01-08-25        |
| Pennsylvania      | NELAP                 | 013                   | 07-31-24        |
| South Carolina    | State                 | 72002001              | 01-08-24 *      |
| Texas             | NELAP                 | TX104704183-08-TX     | 09-30-09 *      |
| Texas             | NELAP                 | T104704183-23-23      | 09-30-24        |
| USDA              | US Federal Programs   | P330-20-00065         | 12-19-25        |
| Utah              | NELAP                 | QUAN5                 | 06-30-13 *      |
| Utah              | NELAP                 | CO000262019-11        | 07-31-24        |
| Virginia          | NELAP                 | 460232                | 06-14-24        |
| Washington        | State                 | C583                  | 08-03-24        |
| West Virginia DEP | State                 | 354                   | 11-30-24        |
| Wisconsin         | State                 | 999615430             | 08-31-24        |
| Wyoming (UST)     | A2LA                  | 2907.01               | 10-31-25        |

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\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Denver

## Login Sample Receipt Checklist

Client: Colorado Analytical Laboratories Inc

Job Number: 280-189858-1

SDG Number: 240409010

Login Number: 189858

List Source: Eurofins Denver

List Number: 1

Creator: Held, Wesley

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.                                        | True   |         |
| Sample custody seals, if present, are 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 is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| 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   |         |
| Sample Preservation Verified.                                                            | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

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Ship To: Eurofins TA Denver

Sub-Lab Chain of Custody Form

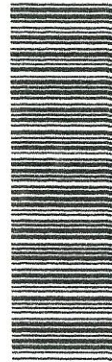
|                                                                                                                                                                                |  |                                                                              |                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report To Information</b><br>Company Name <u>Colorado Analytical Laboratory</u><br>Report To: <u>Rebecca Manzanarez</u><br>E-Mail: <u>rebeccamanzanarez@coloradolab.com</u> |  | <b>Bill To Information: (If different from report to)</b>                    | <b>Project Name</b><br><u>Lagoon Sludge Sampling</u>                                                                                                                                               |
| Address:<br><u>10411 Heinz Way</u><br><u>Commerce City, CO 80640</u><br>Phone: <u>303-659-2313</u>                                                                             |  | <b>Address:</b><br><br><b>CAL TASK</b><br><u>240409010</u><br><br><u>CJF</u> | <b>Compliance Samples:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br><b>Submit Data to CDPHE:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |

Tests Requested

1633 PFAS-TSS (Sub)  
1633 PFAS (Sub)

| Sample Date/Time | Sample ID              | Matrix     | Container Type       |
|------------------|------------------------|------------|----------------------|
| 4/9/24 1:30 PM   | 240409010-01 - Lagoon  | Wastewater | 2 - 500 ml PFAS Free |
| 4/9/24 1:30 PM   | 240409010-01A - Lagoon | Wastewater | 125 ml Unpreserved   |

Comment: 240409010-01 - No 1633 PFAS blank containers provided. Per customer, proceed with testing without the blanks.  
240409010-01A - No 1633 PFAS blank containers provided. Per customer, proceed with testing without the blanks.



280-189858 Chain of Custody

|                                                                  |                                  |                                                              |                                 |
|------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------|---------------------------------|
| <b>Relinquished by:</b><br>(Signature) <u>Adam</u>               | <b>Date:</b> <u>4/9/24</u>       | <b>Received by:</b><br>(Signature) <u>Rebecca Manzanarez</u> | <b>Date:</b> <u>4/9/24 5:15</u> |
| <b>Relinquished by:</b><br>(Signature) <u>Rebecca Manzanarez</u> | <b>Date:</b> <u>4/9/24 12:15</u> | <b>Received by:</b><br>(Signature) <u>Rebecca Manzanarez</u> | <b>Date:</b> <u>4/9/24 5:15</u> |